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I. YEVENKO

PLANNING
IN THE U.S.S.R.

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И. А. Евенко

ПЛАНИРОВАНИЕ В СССР
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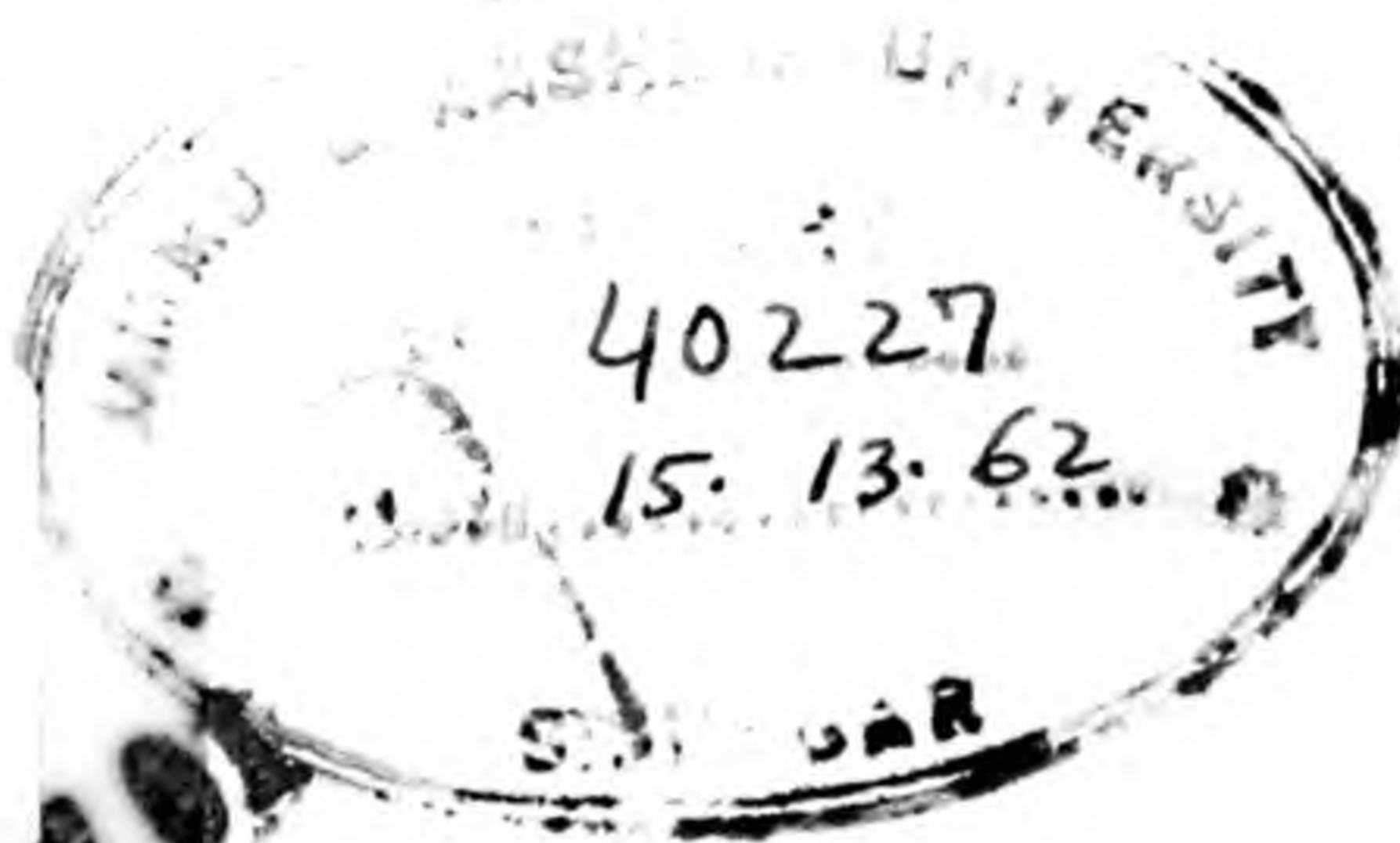
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AUTHOR'S NOTE

The system of socialist planned economy has ensured the economic and cultural advance of the Soviet Union and the other socialist countries at a pace without precedent in history.

The Communist Party and the Soviet Government are paying particular attention to the improvement of socialist planning. Since 1956, the organisation of national economic planning has been substantially changed in line with the new forms of economic management, and the methods of drawing up long-term and annual plans have been improved at all levels, from the enterprise to the State Planning Committee of the U.S.S.R.

The Twenty-First Congress of the C.P.S.U. in 1959 mapped out a magnificent programme of the full-scale building of communism, a programme for accomplishing the main economic task of the Soviet Union in a brief historical period. The drawing up of the control figures for the economic development of the U.S.S.R. in 1959-65 was a great contribution to the theory and practice of economic planning.

The author does not lay claim to an exhaustive presentation of all the problems of organisation and methodology of national economic planning. This book is an attempt to deal with the main questions of organisation of planning in the Soviet Union at the present stage: the tasks and

functions of planning agencies, the general principles of drafting long-term and annual national economic plans, and the system of their targets.

The book also describes the methods of drafting plans and analysing and controlling their fulfilment, using as an illustration chiefly the central section of the national economic plan, industry.

Chapter I

ORGANISATION OF ECONOMIC PLANNING AT THE PRESENT STAGE

1. Basic Principles of Management and Planning of the Economy in the U.S.S.R.

The cardinal task of the socialist state and the Communist Party after winning political power, as Lenin pointed out, is to *organise socialist production* with the broad participation of the masses, to manage the economy, to arrange "an extremely intricate and delicate system of new organisational relationships extending to the planned production and distribution of goods.... It is the most difficult task, because it is a matter of organising in a new way the most deep-rooted, the economic, foundations of life of scores of millions of people. And it is the most grateful task"*.

The scientific principles of managing and planning the socialist economy were elaborated by Lenin. He formulated the propositions on the functions of the socialist state in directing the economy; the unity of political and economic leadership; the principles and organisation of national economic planning, accounting and control by the entire people; democratic centralism in economic management and planning; the proper selection of personnel and control of fulfilment of orders and plans; the principles of cost accounting and strict economy; the use in economic management of personal material incentives, etc. The first long-

* V. I. Lenin, *The Immediate Tasks of the Soviet Government*, Moscow 1955, pp. 10, 13.

term national economic plans were drawn up under the guidance of Lenin who called them plans of "economic and social development".

The application of Lenin's principles of organisation of the socialist economy and a thoroughgoing study of the experience of the masses in building socialism have enabled the Soviet state to develop the organisational forms of managing and planning the socialist economy.

The economic progress of the Soviet Union has demonstrated the great vital force of the Leninist principles of directing socialist construction. The vast experience accumulated by the U.S.S.R. in organising economic management and planning is taken into account both by all the socialist countries and by the young states fighting for their economic and political independence.

Socialist ownership of the means of production creates a solid basis for organising the management and planning of the economy. State management of the economy in socialist society embraces all aspects of extended socialist reproduction—production, distribution, circulation and consumption of the social product—in all the diversity of their interconnections.

Centralised management of production under socialism is a manifestation of the objective law of planned, proportionate development of the national economy, one of its requirements.

The socialist state manages the national economy in accordance with a single long-term plan, which helps to organise and direct the work of millions of people. The great organisational and mobilising role of the Soviet state and of its inspiring and guiding force, the Communist Party, is expressed in that they perform organisational functions, which ensure the continuous development of the socialist economy, science and culture at a fast rate and also the steady advance of the people's living standard.

The socialist state, with the help of its agencies of economic management, planning and accounting, directs the

economy and culture and organises social production. Governmental bodies take into account the multifarious requirements of society and, in conformity with them, plan both in the centre and in the periphery the growth and improvement of production, the application of advanced technology, steady rise in the productivity of social labour and increase of socialist accumulations, and also direct capital construction and the geographical distribution of the productive forces.

At each stage, the socialist state determines the concrete tasks of national economic development, the volume of production, sets the directions, rates and proportions of economic growth, allocates the material, labour and financial resources, establishes the volume of home and foreign trade, sets prices, wages, etc. The state also guides the economic activities of co-operative organisations (collective farms, consumer co-operatives) through the system of their elected bodies and its leading agencies.

The state performs other functions: it organises the educational system and the training of personnel and promotes the development of science and art. Thus, the economic, cultural and educational activities of the socialist state and its local bodies embrace all the aspects of society's life.

Planned direction of the national economy is a principal feature of the economic and organising function of the socialist state.

Economic planning is a special function performed by an apparatus set up for this purpose, which is part of the state administration and economic management both in the centre and in the localities.

The apparatus directly in charge of planning economic and cultural development in the Soviet Union plays an important part among the bodies of the socialist state. The intricate functions of management and planning in socialist society demand of the state apparatus deep and diverse technical and economic knowledge and great experience.

The machinery of management and planning is a major instrument of the socialist state and the Communist Party in building communist society.

Political and economic leadership in the Soviet Union is united. Economic plans represent a consistent embodiment of the general line of the Communist Party. They reflect the economic programme of the Party which expresses the basic, vital interests of the working people. Lenin taught us that "politics is the concentrated expression of economics", thus stressing the fact that the tasks of the Party and of the state plans in building the material and technical basis of socialism are inseparable.

National economic plans of the Soviet Union are designed to satisfy the constantly rising material and cultural requirements of all members of socialist society. That is why the Soviet people regard these plans as their own vital cause and display the greatest zeal and initiative in carrying them out. Overfulfilment of plans has become a splendid tradition with the Soviet people.

In studying the methods of directing socialist economy, Lenin pointed to the technical, economic and historical necessity for centralised guidance of the economy. He said: "Neither the railways, nor the transport system, nor large machines and plants in general can operate properly if there is no unity of will binding all the working people into one economic organism functioning with clockwork precision."*

Centralised guidance consists first of all in the development of the socialist economy being based on long-term plans. Herein lies the great strength of the socialist planned economy.

Centralised direction in planning creates favourable conditions for the development of the productive forces on a country-wide scale, for rapid progress in all social and economic spheres.

* V. I. Lenin, *Collected Works*, 4th Russ. ed., Vol. 27, p. 186.

The economy of the Soviet Union is a socially homogeneous gigantic and widely ramified organism functioning over the vast territory of the 15 Union republics, embracing hundreds of different branches and categories of production, hundreds of thousands of enterprises and construction sites.

The Soviet Union has over 200,000 state enterprises, more than 100,000 construction sites, over 2,900 state repair-and-service stations, some 7,500 state farms and about 45,000 collective farms. The state owns a ramified network of railways, over 124,000 km long, 251,000 km of motor roads, air lines and planes, hundreds of thousands of state warehouses and trading establishments (which account for 70 per cent of all retail trade), and also a wide network of cultural and educational establishments (including 739 universities and colleges and 3,329 secondary technical schools), banks, foreign trade organisations and scientific institutions.

State property is the dominant form of property in the Soviet Union. It accounts for about 90 per cent of all the production facilities of the country and 94 per cent of the total industrial output. Alongside state industrial enterprises and state farms there are large collective farms and small industrial establishments belonging to them, as well as thousands of small industrial and service establishments belonging to consumer co-operatives.

Centralised state guidance in socialist society, however, does not detract from the role of local bodies in managing the economy, does not hamper their initiative in operating it, with due account of the specific features of each Soviet republic, of each economic administration area.

Administration of the state, management and planning of the economy in socialist society are based on the Leninist principle of *democratic centralism*. Its application makes it possible correctly to combine centralised planned direction of social production by the state with the maximum stimulation of the effort of the masses.

Socialist centralism in management and planning is organically combined with the broad initiative and activities of the localities, which are given extensive rights in managing economic and cultural affairs. It is this point that Lenin had in mind when he stressed that "stereotyped forms and uniformity imposed from above have nothing in common with democratic and socialist centralism. The unity of essentials, of fundamentals, of the substance, is not disturbed but ensured by *variety* in details, in specific local features, in methods of *approach*, in *methods* of exercising control. . .".* Thus, account of local specific features in the economic development of each area is a requisite of proper planning.

Advocating a correct understanding of centralised management of the economy, Lenin pointed out that "centralism, understood in a really democratic sense, presupposes the possibility, created for the first time in history, to develop fully and freely not only local specific features, but also local activity, local initiative, to employ diverse ways, methods and means of advancing to the common goal"**.

It must be stressed simultaneously that the principles of socialist management are incompatible with a parochial approach, that is, with the counterposing of local interests to the general interests of the state. In the Soviet system of management the interests of the centre and of the periphery are at one, they are determined by the tasks of building communist society, which are general for the whole country.

Democratic centralism in economic planning means that state plans set only the main assignments which determine the principal directions, rates and proportions in the development of the economy. At the same time the enterprises, economic councils and republican agencies themselves draw up economic plans in conformity with the general

* V. I. Lenin, *Selected Works*, Moscow 1952, Vol. II, Part 1, p. 375.

** V. I. Lenin, *Collected Works*, 4th Russ. ed., Vol. 27, p. 181.

tasks of the state, but with consideration for local possibilities and conditions.

"To us, democracy means genuine government by the people; it implies maximum scope for the activity and initiative of the masses, self-government for the people."*

Democracy in planning is manifested in that the drafting of state economic plans begins directly at industrial enterprises, construction sites, collective and state farms. Maximum account is taken of local experience, which ensures the close link of planning with practical work, with life, with the experience of the masses.

But once the general tasks of the state in developing the economy of the Soviet Union or of a Union republic have been elaborated with the participation of the periphery and approved, fulfilment of the planned assignments becomes obligatory for all managerial and planning bodies at the lower levels, in the Union republics, autonomous republics, territories and regions, down to the enterprises of industry, agriculture, construction, transport, trade—in other words, for all the links in the socialist economy.

Management of a separate enterprise which is an integral part of the national economy is done on the basis of the principles and methods that are general for the entire socialist economy.

One-man management of production is a basic principle of the socialist operation of the economy. It implies the subordination of the personnel to the will of the manager who is vested with the necessary rights and bears full responsibility for the work of the section entrusted to him. Lenin regarded one-man management as a system "which most of all ensures the best application of human capabilities and real, not merely verbal, control of the work"**.

The proper combination of one-man management and

* N. S. Khrushchov, *Control Figures for the Economic Development of the U.S.S.R. for 1959-1965*, Moscow 1960, p. 126.

** V. I. Lenin, *Collected Works*, 4th Russ. ed., Vol. 30, p. 285.

collegial leadership, one-man management and control and criticism by the masses, combination of the authority of the leader and the initiative of the people he leads—this is one of the cardinal features of democratic centralism.

State management and planning of the socialist economy are based on a broad and flexible system of the people's participation in operating the economy. Democracy in management and planning is especially manifested in socialist emulation of working people. Emulation is a very important form of drawing the workers into managing the economy and of working for the fulfilment of economic plans.

The working people taking part in socialist emulation pledge to fulfil plans, to carry out measures for the introduction of new machinery and technological processes, for the mechanisation of labour, saving of raw and other materials, raising the skill of the workers, etc. All these measures are designed to ensure the fulfilment and overfulfilment of plans, to reduce production costs. Socialist emulation stimulates the efforts of millions of workers, collective farmers and intellectuals to fulfil plans ahead of time.

The working people exert a direct influence on local managerial bodies through Party, Komsomol, Soviet and trade-union organisations. Party organisations are the leading and guiding force in production and management in the Soviet Union. They carry on tremendous organisational and educational work among the personnel and direct the activities of the people. Party organisations have the right to control the management at industrial and trading establishments.

The trade unions are the largest mass organisation of factory, office and professional workers in the Soviet Union. They have a membership of over 50 million and are rightly called a "school of administration and management, a school of communism". Through the trade unions the working people control the activities of management. The trade unions take part in production activities, direct-

ly participate in the drawing up of the plans of enterprises and construction sites, organise, jointly with managements, socialist emulation, control fulfilment of plans and bring to light reserves for the early fulfilment of plan assignments. Trade-union organisations and managements draw the workers into managing production and solving urgent problems by means of general meetings of the entire personnel (factories, repair-and-service stations, state farms, etc.), production conferences, meetings of innovators and inventors, and in various other ways.

The system of management of state enterprises in the Soviet Union is based on the principle of the *territorial* organisation of the entire managerial machinery, brought as close to production as possible. This means that management and planning in a given territory are arranged on the basis of the definite production specialisation of the various economic organisations and the territorial location of industry. Economic councils direct all enterprises and construction sites of an area, while boards, combines and trusts, subordinated to economic councils, unite similar or interrelated enterprises located near each other.

Problems of the political organisation of society, of the state structure and administration acquire great importance in the period of the full-scale building of communism.

The building of socialism in the Soviet Union has shown that as socialist society advances to communism, the functions of the state in economic management and planning, far from withering away, steadily grow in scale and importance.

2. Development and Improvement of the Forms of Management and Planning

The Communist Party and the Soviet Government are consistently applying the Leninist principles, proceeding from the premise that the organisational forms of economic management must conform to the conditions of so-

cial production and consumption, to the steadily growing productive forces.

The reorganisation of economic management and planning, carried out in recent years, has marked a new stage in the development of democratic centralism and created conditions for solving the problems of the full-scale building of communist society.

Special state managerial bodies—central boards and People's Commissariats—were organised in the major branches of the economy in the period of socialist industrialisation which began in 1926. The People's Commissariats were reorganised into ministries in 1946. These forms of directing the economy enabled the Government to concentrate efforts on the building up of key heavy industries, the training of highly qualified technicians, economists and executives capable of organising large-scale production on modern scientific and technological lines.

The high rate of economic growth in all the Union republics and thoroughgoing specialisation of production have necessitated big qualitative changes in industrial management.

On the basis of a deep analysis of the economic development attained and the experience accumulated in economic management, the Soviet Government adopted during the Fifth Five-Year Plan period (1951-55) a number of decisions to eliminate excessive centralisation in economic management. The rights of the Councils of Ministers of the Union republics were extended considerably. Some of the all-Union ministries were reorganised into Union-republican ones, and some Union-republican ministries were abolished.

Important changes were introduced in the system of economic planning in the Union republics; the role of the leading bodies of the republics in planning was enhanced and their responsibility for carrying out state plans raised. Much work was done to improve planning and the central planning machinery.

Essential changes were likewise introduced in the system of planning agriculture. Prior to 1955, the general state plans for agriculture set a great many assignments, including, for example, the areas to be sown to various crops, the head of livestock, etc. Such excessive centralisation of planning frequently led to mistakes in the agricultural plans for the different areas and natural-climatic zones. For example, the disposition of the sown area was often fixed without due consideration for the natural and economic conditions of the various areas, which led to the improper distribution of crops. The old planning system fettered the initiative of local administrative bodies, of the collective farms, machine-and-tractor stations and state farms, lowered their responsibility for agricultural production and impeded the fuller utilisation of all local resources.

A new system of planning in agriculture was introduced in 1955. The state plans set only targets for the purchases of farm produce by the Government. Planning of agricultural production is done by the state and collective farms themselves with the participation of local administrative bodies.

The new system of planning in agriculture has created favourable conditions for the widest and most intensive utilisation of all the land as the main wealth of the collective farms, for an increase in the output of crop and livestock farming per 100 hectares, with the least expenditure of labour and money per unit of output.

The rapid economic progress of the Union republics and also the training of competent local personnel capable of solving complex state problems have created the prerequisites for the fundamental extension of the rights of the Union republics and consolidation of their state sovereignty.

All the Union republics now have an integrated socialist economy. Many new industries have been built up in their

territories and their industrial output has risen scores of times since 1917.

In these conditions it became necessary to improve the organisational forms of economic management and planning. It was essential to create such forms of directing the economy as would take fuller account of the specific features of economic development in the Soviet Union at the given stage and furnish the prerequisites for overcoming shortcomings in state management of the economy, particularly of industry and construction. These shortcomings included, specifically, departmentalism in management and the excessive division of the functions of technical, economic and administrative management between a large number of central bodies (all-Union ministries and departments). For instance, prior to mid-1957 industrial enterprises located in the territory of the Russian Federation were directed by 84 all-Union and Union-republican ministries and departments; in the Ukrainian Republic, by 68; in the Uzbek Republic, by 52; in the Georgian Republic, by 50; in the Latvian Republic, by 44, etc.

Such a system of industrial management raised artificial barriers to solving urgent problems, especially to applying rational specialisation and co-ordination among industrial enterprises located in a given area. It hampered the integrated economic development of the Union republics and large economic zones. The subordination of an industrial enterprise to a central body according to the departmental principle tended to weaken and upset normal territorial ties between enterprises of different industries located in the same economic area. In some instances it prevented the local authorities from solving economic problems in a way that would promote the most efficient use of available material, labour and financial resources and especially of productive capacity. A certain contradiction arose between the territorial and economic community of enterprises in a republic, on the one hand, and the departmental division in the direction of their activities, on the

other. Departmentalism hindered the adoption of timely decisions to eliminate shortcomings brought to light in the course of plan fulfilment and made it harder to manoeuvre with the resources of a given area.

Bearing in mind the necessity of eliminating all these shortcomings, and taking into consideration the greater scale of production and also the new sweeping tasks of the economic and cultural progress of the Soviet Union as it advances to communism, the Supreme Soviet of the U.S.S.R. adopted in May 1957 a Law on the Further Organisational Improvement of Management of Industry and Construction.

This law brought about a change-over from the management of industry and construction by ministries and departments, which at a definite historical stage played a positive part in economic construction, to new forms of management on the territorial principle (on the basis of economic administration areas and Union republics).

The reorganisation of industrial management resulted in the abolition of more than 140 all-Union, Union-republican and republican ministries which had under their jurisdiction various branches of the national economy. At the same time, the central and republican planning bodies were reorganised. The total staff of the central bodies of the state and economic administration was cut in 1957 by 33,000, and the staff in the Union republics, by 47,000.

Throughout the Soviet Union 104 economic administration areas were set up. Their activities are directed by economic councils. In some Union republics the boundaries of the economic areas coincided with the administrative boundaries of the respective republics and for this reason they have only one economic council. In the other republics economic councils were formed in regions, territories and autonomous republics: in the Russian Federation there are 68 economic councils; in the Ukrainian Republic, 11; in the Kazakh Republic, 9, and in the Uzbek Republic, 5.

In December 1960, the Supreme Soviet of the U.S.S.R. adopted a law on the establishment of republican economic councils. Such councils function in Union republics which have a considerable number of economic administration areas, and they co-ordinate their activities. The republican economic councils are subordinated directly to the Councils of Ministers of the respective Union republics.

The establishment of a system of economic councils on the territorial principle marked a *new stage in the direction of the economy by the state on the basis of the creative development of the Leninist principles of socialist management.*

The system of economic councils made it possible better to combine centralised state direction of the economy with the enhanced role of the Union republics in solving their economic problems, with the stimulation of the activities of the masses. It opened up broad possibilities for the fuller use of the natural and economic resources of each area, for the acceleration of technical progress, wider dissemination of advanced production experience, for greater specialisation and co-ordination in industry.

The economic councils represent a more flexible form of economic management on the territorial principle. This conforms to the tasks put forward by the Twentieth Congress of the C.P.S.U., namely, to bring management closer to production, to give more attention to concrete problems of economics, to ensure more day-to-day direction of industrial enterprises and construction sites, to make fuller use of all production potentialities and raw material resources of areas. In other words, an organisational form was found which accelerates the growth rate of the productive forces and facilitates the accomplishment, in the shortest historical period, of the task of building the material and technical basis of communism in the Soviet Union.

The economic councils direct and manage industry with the broad participation of the masses, concentrating their efforts on the development of the productive forces and the fuller utilisation of the available potentialities.

The Councils of Ministers of the Union republics and the republican economic councils direct the entire range of industrial enterprises in their territory. The placing of some industrial enterprises under the jurisdiction of the local Soviets has increased the role of the latter in directing the economic development of the territories, regions and autonomous republics.

The transition to the territorial system of industrial management has introduced fundamental changes in the entire system of planning and also accounting and statistics. Planning on the territorial principle is a practical method which ensures the rational location of socialist production, proper specialisation, co-ordination and integration of production, and helps to eliminate irrational carriage of goods.

Planning on the territorial principle and on the branch principle are dovetailed in the national economic plan from the standpoint of the general interests of the state.

It should be noted that parochial tendencies are not always a result of subjective motives of local personnel. In some cases they stem from a one-sided approach to the development of the local economy, lack of knowledge about the general requirements of the state in one or another product or about the general material and money resources the state has at its disposal.

Centralised economic planning by the state is designed to eliminate these shortcomings, to ensure a uniform approach in distributing the national income between accumulation and consumption, and also in allocating the financial, material and labour resources by republics in accordance with the general interests of the state; it is called upon to create the necessary state reserves of materials and to ensure a uniform approach in applying the economic policy of the state in such matters as wages, prices of

agricultural raw materials and food, wholesale and retail prices. General state planning also fixes the proper proportions between the money income and expenditure of the population, between the volume of trade and the cash plan of the State Bank.

The economic councils are the agencies which directly manage the industrial enterprises and construction sites placed under their jurisdiction and, consequently, apply the economic and technical policies of the state. The economic councils have under their charge industrial enterprises which produce about three-fourths of the total industrial output of the Soviet Union, all the pig iron and iron ore, almost all the steel, rolled stock, non-ferrous metals, coal, oil, cement, most of the electric power; the entire output of the chemical and engineering industries, including all the metallurgical equipment, steam and gas turbines, diesel and electric locomotives, motor vehicles, grain combines and many other machines; a considerable part of the output of the light and food industries, including all the sugar and almost all the fabrics, butter and other consumer goods.

In addition to industrial enterprises the economic councils were given over 3,000 construction organisations. The construction sites turned over to the economic councils received in 1957 about two-thirds of all the capital investments in the Soviet Union.

The reorganisation changed substantially the structure of the central economic planning and management bodies. The Council of Ministers of the U.S.S.R. has 17 state committees in charge of various fields of the economy and technology, including the State Planning Committee of the U.S.S.R.*, Labour and Wages Committee, Research Co-ordination Committee, committees on aircraft technique, de-

* The State Planning Committee of the U.S.S.R. will be called the Gosplan or the Gosplan of the U.S.S.R., and the state planning commissions of the Union republics, the republican gosplans.—*Tr.*

fence technique, electronic technique, radioelectronics, ship-building, automation and machine-building, chemistry, agricultural produce purchases, construction, foreign economic relations and professional and technical training.

There are six all-Union and nine Union-republican ministries, which are general state bodies directing definite spheres. The ministries of foreign trade, merchant marine, railways, medium machine-building industry, transport construction and construction of power stations are all-Union ministries. The Union-republican ministries are the ministries of agriculture, geological survey and conservation of mineral resources, finance, communications, culture, higher and secondary special education, public health, etc.

In addition, the Council of Ministers of the U.S.S.R. has the following committees and central boards in charge of various sectors of economic management (Committee for Inventions and Discoveries, Committee on Uses of Atomic Energy, Committee on Industrial and Mining Safety, Committee on Standards, Measures and Measuring Instruments, and also the central boards of the gas industry, civil aviation, labour reserves and state material reserves).

The functions of the state committees differ from the functions of economic ministries. They do not manage directly the enterprises in the respective branches. Their task is to work out one general line in the economic and technical development of the respective branches, ensuring the requisite technical advance, and to see that this line is applied in the state plans. The committees compile plans of research and designing work and control their fulfilment.

The preservation of some all-Union ministries is necessitated by the special conditions in these sectors of the economy. The operation and construction of the railways require centralised direction to ensure the proper functioning of the entire rail network; centralised direction of the

geological service ensures the planned prospecting of the mineral resources with the object of locating the productive forces most rationally; centralised guidance of the financial system is determined by the unity of the monetary system in the Soviet Union.

The reorganisation of economic management and planning in the Soviet Union has been utilised by bourgeois economists for vicious attacks on planned socialist economy. They have perceived in this a "weakness of the Soviet economic system" and have sought to claim that it attests to the "bankruptcy" and even "crisis" in the organisation of economic management and planning in the Soviet Union. Thus, in mid-1957, American economists, who under the editorship of Grover W. Ensley prepared a report *Soviet Economic Growth: A Comparison with the United States*, made the most incredible prophecies about the "difficulties" and "slowing down in the rates of industrial growth", which would allegedly result from the reorganisation of management.

Life has mocked at the prophecies of the bourgeois economists. The activities of the economic councils showed that between 1957 and 1960 targets for industrial output, growth of labour productivity and reduction of costs were exceeded. For example, in 1959 industry overfulfilled its production plan by about 5,000 million rubles, and in 1960, by 6,600 million rubles.

These successes of the Soviet economy provide the best refutation of the assertions of bourgeois scientists who try to pass off their wishes for reality.

Improvement of the management of agriculture, of its planning and technical service is among the major measures taken by the Communist Party and the Soviet Government in recent years. The measures in agriculture are of the same order as the reorganisation of industrial management and other important steps which have improved state guidance of planning. They follow from the decisions of the Twentieth Congress on the need for a steep

rise of agriculture and better direction of the rapidly developing socialist economy.

At the present stage in the development of the collective-farm system the enlarged collective farms have become economically stronger, they are diversified enterprises with modern technical facilities and numerous skilled personnel.

The new system of planning in agriculture and also the measures providing greater material incentives to the collective farmers have raised their initiative, stimulated their labour effort, made them more interested in improving the use of the land and machinery, in increasing yields and tapping all the reserves of collective farming.

The advance in all branches of collective farming serves as the basis for the steady rise in the incomes of the collective farms and the growth of their non-distributable assets, which, in the nature of their use, are drawing close to public property. The non-distributable assets of the Soviet collective farms amounted to more than 19,200 million rubles at the end of 1960 as compared with 6,300 million rubles at the beginning of 1953. The welfare of the collective farmers has risen substantially. The incomes of the collective farms in money and in kind rose by 160 per cent in 1960 as against 1953 (in prices of the corresponding years). Consequently, now the collective farms are able to make large capital investments and to buy complicated machinery.

All this necessitated a change in the forms of technical services and guidance provided to the collective farms by the state through the machine-and-tractor stations (MTS). It was the urgent requirements of the collective-farm system that were taken into account by the February 1958 Plenary Meeting of the Central Committee of the C.P.S.U. and the session of the Supreme Soviet of the U.S.S.R., which adopted in March 1958 a Law on the Further Development of the Collective-Farm System and the Reorganisation of the Machine-and-Tractor Stations.

As a special type of state establishments, the MTS, set up at the initial period of the collective-farm system,* served as a powerful instrument of the socialist state in stimulating and directing the development of the collective farms.

The planning of production was done by the collective farms jointly with the MTS. The latter gave the collective farms organisational and technical guidance. They played a big part in ensuring the fulfilment by the collective farms of their obligation to the state to deliver produce in conformity with the national economic plans.

As most of the collective farms grew stronger organisationally and economically, the production and technical services offered by the MTS no longer conformed to the requirements of the developing productive forces of agriculture. More than that, in many cases this form started to impede the progress of the more advanced collective farms, to fetter the initiative of the collective farmers in making better use of the available production reserves. In view of all this, it became necessary to reorganise the machine-and-tractor stations into repair-and-service stations (RSS). At present agricultural machinery is sold directly to the collective farms.

A special body of the Council of Ministers of the U.S.S.R., the Agricultural Equipment and Supply Board, provides the collective farms with equipment and fertilisers, organises the repair of machines, etc.

The improvement of industrial management and economic planning and the reorganisation of the MTS are the most important economic reforms carried out in post-war years. They are based on the development of Lenin's ideas of democratic centralism in the management of the socialist economy at the present stage.

The economic councils have rapidly extended the rational specialisation and co-ordination of production, have

* The first machine-and-tractor station was organised in 1928 at the Shevchenko State Farm in Odessa Region, the Ukraine.—Ed.

amalgamated a number of small industrial establishments and construction organisations and have set up new industrial integrated works. Planning of economic ties between areas is being improved with the help of planning agencies.

The reorganisation of management in the key branches of production, the setting up of economic councils and the abolition of many economic ministries have struck a heavy blow at bureaucracy and departmentalism in some links of the managerial apparatus.

The changes in the management of industry and construction, the establishment of economic councils and the reorganisation of the MTS have great political, economic and theoretical significance.

The *economic* significance of the reorganisation is that it has ensured more efficient operation of socialist planned economy. The more rational and concrete distribution of material, labour and financial resources in the localities between different branches and economic areas makes it possible to secure more effectively proportionality in the development of the national economy, to introduce modern technology more rapidly, to find and utilise internal reserves for raising labour productivity. Economic plans have been overfulfilled in the Union republics, industrial growth rates have been accelerated, economic and technical management of enterprises has improved, productive capacity has been better utilised and output has risen correspondingly without additional capital investments. Qualitative indices of performance are improving steadily: labour productivity is rising and production costs are declining. In agriculture, machinery is utilised more efficiently and jobs are done faster and better. The new, improved system of economic management promotes the accelerated building of the material and technical basis of communism.

The reorganisation of management has further consolidated the planning principle in the country's socialist economy. The shifting of the main emphasis in planning to the enterprises and also to the economic councils and the gos-

plans of the Union republics has made for a more harmonious combination of the general interests of the state and the interests of separate areas and has lessened the danger of partial disproportions and bottlenecks arising in production. The republics have gained greater opportunities for manoeuvring with the reserves available in the economy. On-the-spot direction has improved and as a result disproportions and bottlenecks are being overcome faster and less painfully.

Reorganisation of economic management and planning signifies an *improvement in socialist production relations*. Socialist production relations open up wide scope for the continuous growth of the productive forces at high rates. At the same time, as the productive forces of socialist society develop, some or other aspects of these relations become obsolete and no longer conform to the requirements of expanding production.

In agriculture, the growth of the productive forces led to the rise of a contradiction—the separation of the main productive force, the collective farmers, from the main implements of production which were concentrated in the MTS. The purchase of machinery by the collective farms and the training of machine operators from among the ranks of the collective farmers resolved this contradiction in agricultural production.

Through the further improvement of industrial management, the reorganisation of the MTS and improvement of planning, the Communist Party has resolved two of the biggest contradictions that have arisen in socialist society of late, namely:

the contradiction between the huge scale of the national economy and the old forms of directing industry through ministries and also the forms of operating the main instruments of agricultural production;

the contradiction between the excessive centralisation of economic management and planning and the democratic

principles of socialist management, which call for the broad participation of the masses.

The removal of this contradiction strengthened both democracy in planning and managing the economy and centralised planned guidance in fundamental matters of the state and the co-ordinated economic development of the Union republics.

The *political* significance of the reorganisation of management and planning is that new and better objective conditions were created for the greater enrolment of all the Soviet nationalities in managing production.

The setting up of economic councils in the Union republics and the change in the methods of planning production ties between republics strengthen the economic and cultural and, consequently, the political ties between the peoples of the Soviet Union, facilitate the all-round economic and cultural progress of all the Union republics, the enrolment of all the nations and nationalities of the Soviet Union in economic management on a still larger scale. "The chief trend in the development of the socialist state," Khrushchov said at the Twenty-First Congress of the C.P.S.U., "is maximum promotion of democracy, drawing the broadest sections of the population into the management of all the country's affairs, enlisting all citizens to share in the supervision of economic and cultural developments."*

The reorganisation of industrial management, the measures for the further development of the collective-farm system and the reorganisation of the MTS have advanced state direction of the country's economy to a new, higher level, extended the organisational functions of local government bodies and ensured greater participation of the people in managing the economy.

Discussion by the people of the basic problems of state importance (the reorganisation of industrial management,

* N. S. Khrushchov, *Control Figures for the Economic Development of the U.S.S.R. for 1959-1965*, Moscow 1960, pp. 125-126.

the further development of the collective-farm system and the reorganisation of the MTS, the further advance of the educational system, economic development for 1959-65, etc.) furnishes an example of how millions of people take an active part in elaborating the contemplated measures. For example, the theses on the control figures of the Seven-Year Economic Development Plan were discussed at 968,000 meetings attended by 70 million people. At these meetings 4.7 million people voiced their opinion and submitted new ideas and proposals. In addition, over 300,000 proposals were published in the press. The proposals and suggestions advanced in the course of the country-wide discussions are taken into account by the Supreme Soviet of the U.S.S.R. in the final framing of the laws.

The experience of the Soviet Union shows that each practical question of socialist construction is simultaneously a *theoretical* question, which has a direct bearing on the creative development of Marxism-Leninism.

The Communist Party improves the organisational forms of state economic management on the basis of the creative development of Marxist-Leninist theory, specifically, its major propositions on the role of the Soviet socialist state and on the ways of developing and bringing together the two forms of socialist property in the period of transition from socialism to communism. The Communist Party of the Soviet Union is thus making its contribution to the theory of Marxism-Leninism.

3. The Structure of Economic Planning Agencies and Their Tasks

General direction of national economic planning is effected by the Central Committee of the C.P.S.U. and the higher organs of state power in the country, the Supreme Soviet of the U.S.S.R. and the Government it forms. The higher organs of state power and state administration guide the work of the Gosplan of the U.S.S.R., the State

Economic Research Council (Gosekonomsovet) and other state committees, of the all-Union and Union-republican ministries and departments, guide the economic councils through the republican Councils of Ministers and republican economic councils, and also direct the country's financial and credit system.

The Central Committee of the C.P.S.U. maps out the principal economic and political tasks of the plans. The control figures and directives for national economic development are approved by the congresses of the C.P.S.U. The Soviet Government, the highest executive state organ, applies in its decisions the directives of the Party and gives single centralised direction to the national economy. The Council of Ministers of the U.S.S.R. examines and endorses the economic plans and state budget of the Soviet Union and submits them for final approval to the Supreme Soviet of the U.S.S.R.

In the Union republics direction of planning is based on the same principle. The republican Council of Ministers, the highest executive organ of a Union republic, co-ordinates and directs the work of the economic councils, the republican ministries and departments, examines and endorses the plans for the development of the republic's economy and culture and submits them for final approval to the republican Supreme Soviet and to the respective all-Union bodies.

A republican Council of Ministers takes measures for carrying out plans, directs and controls the work of the executive committees of the Soviets at all lower levels.

Planning bodies in the Soviet Union at all levels are agencies of the respective executive and economic management bodies, their "economic general staffs". The Council of Ministers of the U.S.S.R. has two all-Union planning agencies, the State Planning Committee (the Gosplan) and the State Economic Research Council (the Gosekonomsovet); the Councils of Ministers of the Union republics have state planning commissions (republican gosplans); the

Councils of Ministers of the autonomous republics have planning commissions; the executive committees of Soviets of territories, regions and districts have corresponding planning commissions. Economic councils, committees, ministries, boards, and also industrial enterprises and construction sites and most governmental organisations and institutions have planning departments.

The system of state statistics plays an important part in the drawing up of national economic plans and particularly in the control and analysis of their fulfilment. The Central Statistical Board of the Council of Ministers of the U.S.S.R. is a body exercising centralised direction of accounting and statistics. The Central Statistical Board has a wide network of local statistical agencies—statistical boards of the Union republics, autonomous republics, territories, regions, and areas; it also has inspectors in districts and towns.

The general system of state economic management and planning bodies is shown on the next page.

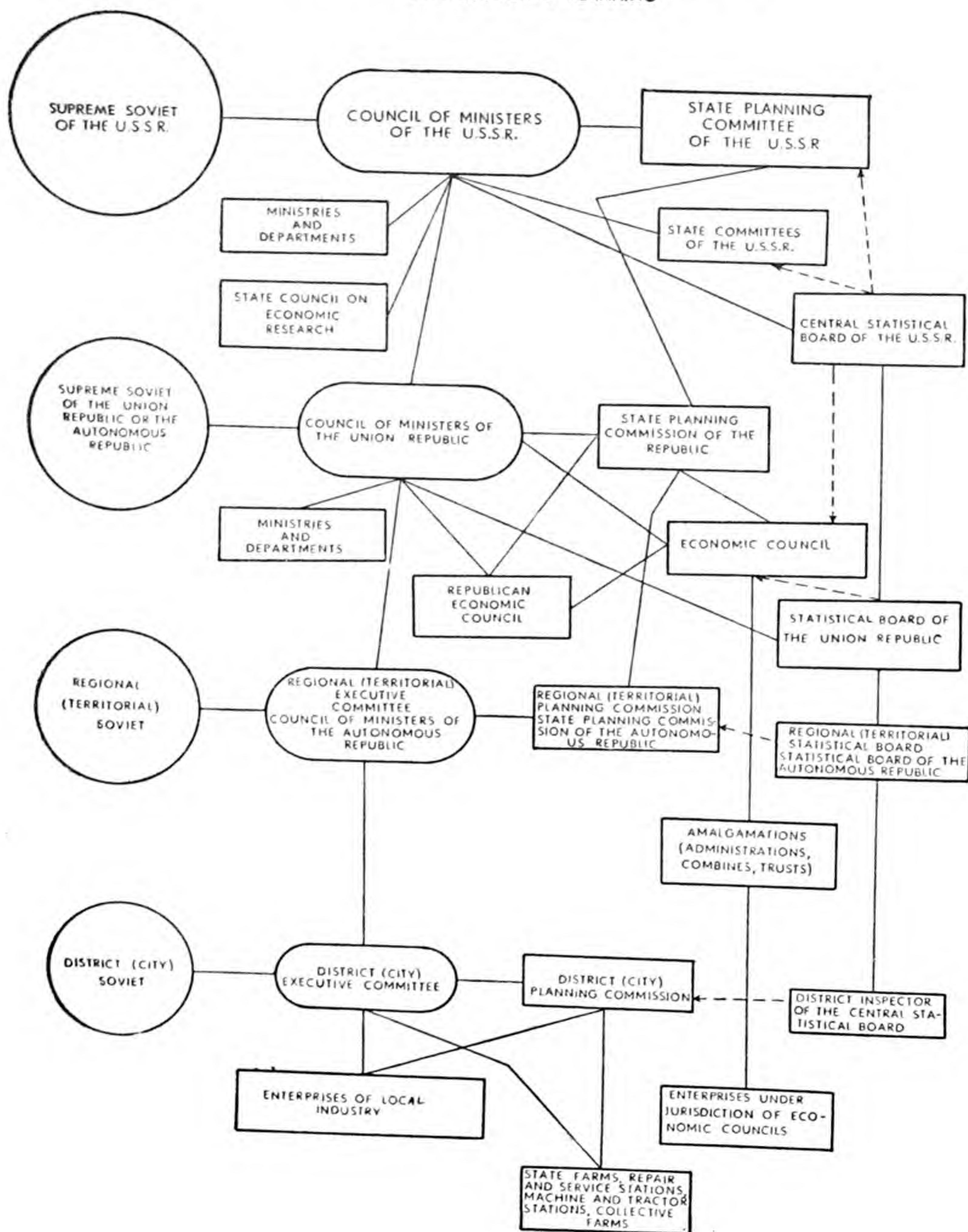
The structure of planning agencies of the Soviet Union, just as of economic management bodies, has been improved and modified at different stages in conformity with the requirements of the growing economy and the new tasks of the state.

In 1957-58, measures to improve planning and reinforce the planning agencies were taken by the Party and the Government with the object of bringing the planning system in line with the new organisational forms of industrial management.

The Gosplan of the U.S.S.R. was reorganised. The rights of the republican gosplans were extended, especially in industry and construction, and this enhanced their role in economic development.

The Gosplan—the Country's Scientific Planning Centre. On the initiative of Lenin, the world's first state agency for economic planning, the Gosplan, was established in 1921. The first decision of the Government on the organi-

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sation of the Gosplan, signed by Lenin, outlined the basic propositions concerning the functions and the work of the central planning agency of the socialist state. Lenin attached exceptional importance to a single national plan of economic and social development and took great interest in the agency charged with drawing it up. In his last works Lenin stressed the great role of the Gosplan and the need for extending the sphere of its competence.

Lenin, in defining the special role of the Gosplan, pointed out that the planning committee of the Soviet Government was an "aggregate of competent people, experts, representatives of science and technology", and that it must possess the maximum data for the proper judgement of national economic affairs. He stressed that the Gosplan, having on its staff highly qualified experts in different industries, should "provide the state with material critically analysed" and well-grounded technically and economically.

Thus, Lenin already in the first years of the Gosplan defined its functions as an expert, scientific institution. Lenin pointed out that it must not only draw up but also strive "to turn into reality our plan of economic and social development".*

Lenin's ideas on the organisation of socialist planning on a country-wide scale underlie the activities of the central planning bodies in the Soviet Union. These ideas have also been further developed in the new regulations concerning the central planning bodies of the U.S.S.R. and the Union republics. The Gosplan of the U.S.S.R. is called upon to ensure the proportionate development of the national economy, taking into account all the diverse factors that determine the advance of the economy, technology, science and culture.

The role of the Gosplan of the U.S.S.R. as the state scientific planning agency which co-ordinates the development

* V. I. Lenin, *Letter to the Congress*, Moscow, p. 19.

of the country's economy and culture grew particularly after its reorganisation in 1957-58.

In 1959, a State Economic Research Council (Gosekonomsovet) was set up to study questions that arise in the course of economic and cultural development and also to examine proposals for the development of the country's productive forces received by the Government.

This Council prepares for the Government conclusions on the basic directions of economic development of the Soviet Union and the draft national economic plans submitted by the Gosplan; examines proposals which are of great significance to the national economy, submitted both by Governmental and Party bodies and by individuals; studies, on instructions of the Central Committee of the C.P.S.U. and the Government, and also on its own initiative, fundamental problems of the economic development of the Soviet Union, draws conclusions about proposals submitted to the Government and evaluates their merit.

The main task of the Gosplan and the Gosekonomsovet is to ensure high rates of extended socialist reproduction, the proportionate development of the socialist economy with priority growth of heavy industry, the continuous rise of the productivity of social labour and the rapid advance of all branches of the economy on the basis of the latest technology, the most effective utilisation of the natural wealth and of the material and labour resources of the country.

The Gosplan and the Gosekonomsovet thoroughly study the requirements of the economy and the population and on this basis draw up long-term national economic development plans for 20 years, control figures of plans for 5 or 7 years and annual plans based on the control figures with adjustments that follow from the country's progress.

The Gosplan and the Gosekonomsovet co-ordinate the plans of the Union republics, draw up proposals on the direction of their economic development, taking into consideration the natural resources and distinctive features of

their economy, and establish the most appropriate production ties between republics and between the largest economic geographical areas. In present conditions, when the country's economy is directed mainly through the economic councils, the Gosplan and the Gosekonomsovet not only draw up but also approve, on behalf of the Government, plans for the distribution of major goods and plans for inter-republican deliveries of raw and other materials, fuel, electric power, equipment and consumer goods, plans of deliveries for all-Union needs, and also wholesale and retail prices and the rates for transport and other services.

The Gosplan and the Gosekonomsovet are called upon to co-ordinate the economic plans of the Soviet Union with the plans of the other socialist countries in order to introduce the most rational division of labour among them and extend production and technical co-operation, taking into account the economic and natural conditions and the national peculiarities of each country.

The Gosplan and the Gosekonomsovet study the achievements of Soviet science and technology and foreign accomplishments in these fields and provide in plans for the practical application of the results of scientific investigations.

In conformity with these major tasks in national economic planning, the Gosplan and the Gosekonomsovet have to discharge the following main functions:

to work out control figures for the development of the national economy, taking into consideration the drafts of the Union republics and central bodies and enlisting the services of scientific institutions, with a breakdown of the assignments by years, branches, Union republics, by all-Union ministries and departments; to check the conformity of the long-term plans of the Union republics, of all-Union ministries and departments with the approved control figures; to adjust the annual assignments, to draw up, on this basis, the annual economic plans for the Soviet Union as a whole and submit them for approval to the Central Committee of the C.P.S.U. and the Government;

to allocate capital investments by republics and branches, to compile special lists* of the most important construction projects for the entire period of building, with their distribution by years in conformity with the standard periods of construction and to elaborate plans for the delivery of equipment to these projects; to examine, by way of co-ordination with the Union republics, the lists of large construction projects about to be started in the republics; to examine the lists of other large construction projects being designed in the Union republics and in all-Union ministries and departments; to approve, together with the State Committee on Construction of the U.S.S.R., the Union standards for technological design and the technical and economic performance indices by branches, to direct the revision of these standards and indices, and to examine, with the participation of the State Committee on Construction, the designs of projects involving enterprises in several industries;

to examine plans of designing and survey work for current and future construction and plans of standard designing;

to draw up and approve annual material supply plans of the national economy as part of the summary balances of major industrial goods and agricultural raw materials, plans for the distribution of output and plans for inter-republican deliveries and deliveries for all-Union needs;

to prepare draft plans for accumulating state material reserves, plans of exports and imports of goods and the deliveries of complete sets of equipment for industrial enterprises built abroad with the assistance of the Soviet Union, and also to draw up the foreign exchange plan for

* These lists enumerate construction projects, giving the name and place, designed capacity, estimated cost, dates when building is to begin and end. Only projects which have approved designs and estimates by the beginning of the planned period are included in these lists—Ed.

trade transactions, taking into consideration the proposals of the Ministry of Foreign Trade and the State Committee for Economic Relations with Foreign Countries;

to prepare conclusions on the draft state budget of the Soviet Union worked out by the Ministry of Finance of the U.S.S.R. and also to draw up credit, cash and foreign exchange plans for non-trading operations;

to approve wholesale prices of basic industrial and agricultural goods, freight rates, rates for gas, electricity, heating and communication services, and also to approve retail prices of food and non-food goods; to draft for the Government proposals on changing the general level of prices and rates and also to prepare conclusions on price questions submitted by the Union republics;

to elaborate, on instructions of the Central Committee of the C.P.S.U., the Council of Ministers of the U.S.S.R. and on their own initiative, proposals for the improvement of economic planning, the tightening up of cost accounting, the provision of greater material stimuli to the expansion of production, for the improvement of trade and the system of price formation and also proposals on other national economic problems.

The long-term and annual national economic plans, drafted by the Gosplan and the Gosekonomsovet, must ensure high rates of, and proper proportions in, economic development, including:

a) scientifically based proportions in the development of allied branches, between the extractive and manufacturing industries, between industry and agriculture, between production and the power supply, between transport and the other branches of the economy, and also proper proportions between the growth of consumption and accumulation, between the rise in labour productivity and wages, between the increase in the money incomes of the population and the expansion of trade, between production and construction, on the one hand, and their provision with material and financial resources, on the other;

b) rational balance in the location of the productive forces; the bringing of industry closer to the sources of raw material, fuel and power and to consumers; further specialisation and integrated development of large economic geographical areas, with a view to the efficient and comprehensive use of the natural resources of the country and the establishment of the most appropriate economic ties between areas.

The Gosplan and the Gosekonomsovet, together with the State Committee on Automation and Machine-Building, and assisted by national scientific institutes and research establishments, draw up plans for the introduction of new technology on the basis of draft plans submitted by the Union republics. The purpose of these plans is to modernise all industries and construction through the further development of over-all mechanisation, automation, electrification and the application of chemical processes in production, the introduction of direct-flow lines and the modernisation of existing equipment.

The Gosplan and the Gosekonomsovet examine, with the participation of the Union republics and the state committees of the U.S.S.R., the principal research plans for branches and for the entire country. The Gosplan and the Gosekonomsovet also study the technical and economic plans and general programmes for the development of separate areas and branches, prepare conclusions on them, which are taken into consideration when drawing up national economic plans. The branch departments of the Gosplan, on the basis of reports of scientific institutes, work out recommendations on the application of the results of their research in planning.

The Gosplan and the Gosekonomsovet have a wide network of research establishments. They have under their jurisdiction a considerable number of institutes, such as the Central Ferrous Metals Research Institute, Central Non-Ferrous Metals Research Institute, Central Cotton

Textile Research Institute and a number of other institutes in key industries.

In addition to the branch technical and economic institutes, the Gosekonomsovet has an Economic Research Institute and the Gosplan a Research Institute of Planning and Standardisation which are called upon to study problems of economic development and also the improvement of the methods of planning.

The Gosplan and the Gosekonomsovet draw into the elaboration of economic plans and of separate problems the Academy of Sciences of the U.S.S.R., the Academies of Sciences of the Union republics, the Lenin Academy of Agricultural Sciences of the U.S.S.R., the Academy of Construction and Architecture and other central research institutes. Large groups of scientists at universities and colleges and specialists of designing organisations, economic councils, ministries and departments assist in studying separate problems of economic development.

A great many research institutes in various branches of industry have been placed under the jurisdiction of republican gosplans and economic councils, which has brought scientific organisations much closer to the managerial and planning agencies. At present the Gosplan, the Gosekonomsovet, the republican gosplans and the economic councils have under their jurisdiction 323 research institutes with a staff of about 19,000 people.

The fact that planning agencies have research facilities and experimental and pilot plants ensures the study of urgent problems pertaining to technical development and the scientific grounding of plans. Specifically, when dealing with problems of new technology and the manufacture of new goods, planning agencies rely on the results obtained by pilot plants and they provide in the plans for the manufacture of the tested models of machines, instruments and equipment, and for the application of new technological processes.

In deciding problems of locating the productive forces, the Gosplan, the Gosekonomsovet and the republican gosplans make extensive use of the designing organisations under their charge for a thorough analysis of the location of large industrial plants, ascertainment of the efficiency of capital investments in new construction and the introduction of new technology.

In 1958, together with the extension of the rights of the Councils of Ministers of the Union republics in directing and planning trade, new functions were attributed to the Gosplan of the U.S.S.R. as regards the allocation of principal food and non-food goods, and the formation of prices. It was also charged with certain administrative functions bound up with the co-ordination of problems of general state importance.

In view of the abolition of the Ministry of Trade of the U.S.S.R., the Gosplan has been instructed, in addition to working out summary trade plans, to draw up plans of goods supply for retail trade for all the Union republics, to approve plans of inter-republican deliveries of consumer goods, taking into account the plans for the production, exports and imports of these goods; the Gosplan is also charged with allocating the saleable quantities of 33 primary industrial and agricultural commodities among the Union republics.

A Central Board for Inter-Republican Deliveries of Consumer Goods has been set up in the Gosplan. In addition to planning the inter-republican deliveries of goods to retail trade and other channels of distribution, this Board fulfils administrative functions in regulating deliveries and the sequence of goods shipments. Instructions of this Board are binding on sales and supply agencies of the Union republics, economic councils and enterprises.

To ensure unity of policy in questions of industrial and agricultural prices, the Gosplan has since 1958 been approving wholesale prices of raw and building materials, fuel, machinery, equipment, machine-tools, etc.; whole-

sale prices of raw material and products of agriculture, forestry and fishing: grains, fodder, fibres, hides, skins and furs, etc.

The Gosplan is also authorised to approve retail prices of food and non-food goods, including bread, flour, meat, sugar, butter, fish, fabrics, footwear, building materials, etc.

It approves rates for freight and for other services of rail, marine, river and air transport, rates for communication services, gas, electricity and heating and also price lists, and gives the necessary instructions to state, co-operative and public organisations as regards operative lists of prices and rates.

Thus, at the present stage of economic management and planning, the Gosplan, in addition to its regular activities, has also been given some legislative and administrative functions (approval of plans for the allocation of output, plans of inter-republican deliveries, approval of prices, etc.), which conforms to Lenin's idea of attributing to the Gosplan some legislative functions associated with economic management.

In a memorandum of December 27, 1922, on "The Attribution of Legislative Functions to the Gosplan", Lenin pointed out that as state management of the economy becomes more complex, economic and planning bodies would have "to settle questions which require the expert opinion of the members of the Gosplan and questions not needing such expert opinion"*.

In this connection, Lenin thought it possible to make a step towards extending the powers of the Gosplan and investing it with legislative functions in settling some concrete problems of the planned guidance of the economy.

One of the primary functions of the central planning agencies is to make a systematic and all-round analysis of the development of Soviet economy, to control the fulfil-

* V. I. Lenin, *Letter to the Congress*, Moscow, p. 15.

ment of national economic plans, to control the proper use of money allotted, of material and labour resources. On the basis of data obtained through such control, they report to the Government the progress of fulfilment of national economic plans and submit proposals designed to eliminate shortcomings in plan fulfilment and to remove partial disproportions, discrepancies and bottlenecks in the development of individual branches of the economy.

When necessary, the Gosplan and the Gosekonomsovet prepare and submit to the Council of Ministers of the U.S.S.R. proposals on the redistribution of capital investments, material and labour resources between various branches of the economy and between Union republics to conform with newly discovered needs or additional reserves created by overfulfilment of the plan.

The Gosplan and the Gosekonomsovet constantly control the fulfilment of Party and Government decisions on the development of the economy, of science and culture, and report the results to the Central Committee of the C.P.S.U. and the Council of Ministers of the U.S.S.R.

In studying and summarising the practical experience of planning, the Gosplan and the Gosekonomsovet draw up regulations, targets and lay-outs for compiling national economic plans. They also sponsor other measures for improving the methodology and organisation of planning.

The central machinery of the Gosplan and the Gosekonomsovet has a structure which conforms to the above-enumerated tasks and functions.

The Gosplan, for example, consists of 30-35 members who include: the Chairman of the Gosplan who is a Vice-Chairman of the Council of Ministers of the U.S.S.R.; Vice-Chairmen of the Gosplan who are Ministers of the Government and are appointed by the Supreme Soviet of the U.S.S.R.; members of the Gosplan, heads of departments who are personally appointed by the Council of Ministers of the U.S.S.R. The Chairman of the Gosplan, the Vice-Chairmen and heads of departments who have the rank

of all-Union ministers make up the Collegium of the Gosplan.

The central staff of the Gosplan consists of branch departments and general economic departments. The branch departments are in charge of drafting plans and elaborating the problems pertaining to the respective branches of the economy.

The function of general economic departments is to study general economic problems and to work out the summary sections of the long-term and annual plans for republics and branches.

A Price Bureau in charge of price-formation problems was set up in the Gosplan in 1958. The Gosplan also has a Council of Technical and Economic Experts consisting of eminent scientists and specialists in different fields. This Council subjects to an expert analysis location programmes for the key branches of the economy, construction projects of state importance and also examines the solution of some national economic problems.

Together with the State Committee on Construction, the Gosplan subjects to expert examination the designs of construction projects and also general outlines and plans for the development of separate areas of the Soviet Union.

Important economic and technical problems are studied and subjected to expert examination by the Council of Technical and Economic Experts, the Council for the Study of the Productive Forces (of the Gosekonomsovet) and the Scientific and Technical Council on Over-All Mechanisation and Automation of Production Processes. These councils consist of scientists and specialists in different fields.

The Gosplan has central boards for inter-republican deliveries of metal, coal, chemical products, oil products, building materials, raw materials for the light industry, raw materials for the food industry, the output of the electrical equipment, heavy engineering and general engineering industries and consumer goods.

There are two specialised central boards directing the deliveries of complete sets of equipment for new and reconstructed chemical plants and works in heavy industry.

The reorganisation of industrial management and the transfer of enterprises formerly subordinated to all-Union ministries to the jurisdiction of Union republics have radically changed the nature of planning work in the Union republics.

The main functions and tasks of the gosplans in the Union republics have been broadened substantially. At present the republican gosplans perform approximately the same functions as the Gosplan of the U.S.S.R. In line with this, the structure of the republican gosplans follows the same pattern as that of the Gosplan of the U.S.S.R., but with account of the specific features and scale of the economy in each Union republic. The republican gosplans do much work in co-ordinating the plans of the economic administration areas, autonomous republics, territories, regions and districts and in planning the economy of large zones. In view of this, as distinct from the Gosplan of the U.S.S.R., the Gosplan of the Russian Federation has, in addition to general economic and branch departments, territorial departments for large economic geographical areas (the Centre, the North and North-West, the Urals, the Volga area, Northern Caucasus, Siberia and the Far East). The main function of the territorial departments is to render aid to the economic councils of these areas in solving current planning and other problems, to study the development of the economy of the areas, particularly the ties between areas, and to control the fulfilment of the state plans by the economic councils.

In the new conditions, the republican gosplans draw up and approve the annual material supply plans for the entire economy of the Union republic for a definite range of products. They have corresponding agencies to discharge this function. The Gosplan of the Russian Federation, for

example, has 21 boards for the supply and sale of the output of different industries. These boards draw up plans for the allocation of material resources for economic councils and enterprises of local importance, the regions, territories and autonomous republics, work out material balances and compile plans of shipments in conformity with the plans for production and capital construction. The Central Material Supply Board of the Council of Ministers of the Russian Federation is in charge of fulfilling the current supply plans drawn up by the Gosplan of the Russian Federation.

The republican gosplans draw up long-term and annual economic development plans of their republics on the basis of assignments from the leading republican bodies and directives from all-Union organs, on the basis of the plans of economic councils and local bodies, and also of a thorough study of the requirements of the economy and of achievements of science and technology. They also co-ordinate all the planning work in the economic agencies of the republics and control the fulfilment of state plans for economic development and delivery of industrial goods.

In planning the economic development of their republics, gosplans rely on support of the economic councils and also of local planning agencies of the executive committees of the Soviets, taking into consideration the best experience in the localities and the initiative of the people.

The cardinal task of the republican gosplans is to elaborate measures to utilise comprehensively local resources and reserves within the economy for the continuous expansion of production, to locate the productive forces rationally and to dovetail together the development of separate branches, to solve problems of the integrated development of economic geographical areas and economic zones and also problems of the proper specialisation and co-ordination of industry in the light of the general interests of the state.

Republican economic planning agencies must ensure in

the plans the proper co-ordination between the development of the industry and construction subordinated to the economic councils and the plans of local enterprises subordinated to the executive committees of Soviets, allowing neither manifestations of a parochial approach nor the counterposing of the interests of the local economy to those of the economic councils.

A republican gosplan has to ensure in the plans the proper proportions and rates in the development of all branches of a republic's economy. It ascertains the needs of the republic in raw materials, fuel, supplies, electric power and equipment. For these purposes a republican gosplan makes estimates of the requirements in principal goods and draws up draft production plans, material balances, determines the quantities of goods to be received and delivered by the republic and works out the republic's summary material supply plans for the economic councils.

As agencies handling the allocation of material resources, the republican gosplans pursue a policy of strict economy in the expenditure of resources and money and seek to utilise rationally the funds for capital construction allotted to the republic concentrating money and material resources on the most important projects, with a view to putting them into operation in the periods stipulated in the plan.

Relying on the research and designing organisations under their jurisdiction, republican gosplans work out, in line with the directives of all-Union bodies, plans for the introduction of new technology and submit them for approval to the republican Councils of Ministers.

In preparing draft long-term and current plans for the various sectors, the republican gosplans co-ordinate their activities with the all-Union committees and Union-republican ministries and departments.

The Union republics have the right to introduce, in the process of plan fulfilment, changes in the targets approved by the Government of the republic, specifically to re-allo-

cate, by agreement with economic councils and local bodies, capital investments (except in key branches), material resources and goods assigned for retail trade, with a view to fulfilling the plan for the republic as a whole. Proposals for changes in the targets of long-term state plans are submitted by republican gosplans for consideration to the Gosplan and the Gosekonomsovet of the U.S.S.R.

Tasks and Functions of State Committees. The Council of Ministers of the U.S.S.R. has working agencies whose activities are closely bound up with the management and planning of the national economy, namely, state committees and central boards (Central State Material Reserves Board, Central Labour Reserves Board, State Mineral Reserves Committee and the Central Statistical Board of the U.S.S.R.).

The attribution of independent functions to the state committees ensures a thoroughgoing study of special questions in the respective fields, makes for a more objective approach in preparing government decisions on separate problems. The results of the work by state committees, whose activities are co-ordinated and directed by the Council of Ministers of the U.S.S.R., serve as a basis for drawing up national economic plans by the Gosplan and for their successful fulfilment.

All committees and central boards under the Council of Ministers of the U.S.S.R. take part in elaborating the economic development plans of the Soviet Union, submitting to the Gosplan drafts and proposals for their respective fields.

Let us outline in brief the activities of some of the state committees.

The State Committee on Construction of the Council of Ministers of the U.S.S.R. is the state agency which handles problems of construction and of the building materials industry.

It directs the organisation of construction, the development of the construction industry and the mechanisation

of building jobs; works out draft long-term plans for the over-all mechanisation and introduction of new technology in construction and also economical standard designs; checks the designs and estimates of major construction projects; approves and issues norms and technical specifications for construction designing, for building work and special jobs; directs standardisation of building components and research work in construction. The State Committee on Construction co-ordinates all these activities with the republican gosplans, economic councils and the Gosplan of the U.S.S.R.

The State Labour and Wages Committee of the Council of Ministers of the U.S.S.R., jointly with the economic councils and republican gosplans, studies questions of improving the system of wages of workers, technicians and engineers for branches and economic areas. After co-ordination with the Gosplan of the U.S.S.R., the All-Union Central Council of Trade Unions and the Finance Ministry, it submits these questions to the Government. The committee exercises control over the application of the laws and decisions on wages; it co-ordinates the activities of the economic councils and industrial enterprises in setting output norms and wage rates and also approves reference lists of wage rates for different trades. The most important decisions on questions of labour and wages are taken jointly by the committee and the All-Union Central Council of Trade Unions.

In its work the Gosplan also relies on the *all-Union and Union-republican ministries*. The all-Union ministries prepare draft plans for the respective branches of the economy and submit them to the Gosplan of the U.S.S.R.

Financial agencies play a big part in drafting national economic plans and controlling their fulfilment. On the basis of the assignments of the annual national economic plan, the Finance Ministry of the U.S.S.R. draws up the draft budget of the Soviet Union and submits it to the Government. The State Bank of the U.S.S.R. prepares draft cre-

dit and cash plans. The Foreign Trade Ministry of the U.S.S.R. draws up an annual export and import plan and the draft foreign-exchange plan for trade operations. To ensure the dovetailing of all these drafts with the annual national economic plan the Gosplan submits its conclusions on them to the Government.

Such are the main tasks and functions of the all-Union and republican planning bodies of the Soviet Union.

The All-Union Central Council of Trade Unions (A.U.C.C.T.U.), central committees of trade unions and republican trade-union councils have been playing a greater part in national economic planning in recent years, particularly since the Plenary Meeting of the Central Committee of the C.P.S.U. in December 1957. They are participating in the activities of managerial and planning agencies, in the discussion of draft plans, especially of questions relating to working and living conditions.

Local planning commissions occupy an important place in the system of planning agencies of the Soviet Union. These are standing commissions of the executive committees of the Soviets in the respective administrative divisions (autonomous republics, territories, regions, areas, cities and districts). These commissions not only plan the economy directly subordinated to the local Soviets, but also co-ordinate the development of the entire economy located in the given territory.

Local Soviets have under their charge small state enterprises, establishments belonging to consumer co-operatives, collective farms, schools, cultural, health and welfare establishments, housing and public utilities, the network of local roads, a considerable part of the trading establishments, and so on.

The local economy is an important factor in satisfying the material and cultural requirements of the population and in solving many economic and cultural problems of importance to the state. This economy is constantly being expanded through new construction. Capital investments

in the economy under the control of local Soviets make up sizable sums.

In present conditions when the main emphasis in economic management and planning has been shifted from the centre to the periphery, it becomes very important to stimulate the initiative of local organisations. The main task of a regional or territorial planning commission is to ensure the development of the region or territory by utilising internal reserves and local resources to the maximum. The planning commissions must ensure the interests of the state and, as general economic agencies, firmly oppose parochial tendencies.

Local planning commissions perform the following functions:

- plan the development of the economy under the jurisdiction of local Soviets in co-ordination with the enterprises managed by economic councils, study problems related to the development of the economy, culture, health services and public utilities and submit them for consideration to the respective Soviets;

- prepare draft long-term and current plans of economic and cultural development for the establishments under the jurisdiction of local Soviets and submit them for approval to the executive committees of the Soviets and also to the republican gosplans for examination;

- on assignments from the Gosplan of the U.S.S.R., republican gosplans, executive committees of the Soviets, or on their own initiative, work out proposals for the development and rational use of the resources of the territory, region or autonomous republic, and proposals on other economic and cultural questions;

- work out draft long-term plans for the development of agriculture of the area, taking into account the plans of the collective farms and repair-and-service stations;

- control the fulfilment of plan assignments by organisations and enterprises subordinated to the local Soviets and also the fulfilment of decisions of the Government of the

U.S.S.R. and the Councils of Ministers of the Union republics on problems of economic and cultural development.

Local planning commissions are drawn by the republican gosplans into the elaboration of problems of general economic importance. Among these are the compilation of a balance of electric power for an entire region, territory or autonomous republic; the working out of draft plans for the production of building materials, especially bricks, by all industrial establishments in a region or territory; the preparation of a balance of labour and similar questions.

Regional and territorial planning commissions consist of from five to seven members, personally approved by the executive committee of the respective Soviet from among leading managerial, planning and scientific personnel and specialists of industry, agriculture and other branches of local economy. The local planning commissions are so constituted that their departments cover all branches of the economy in the given area and reflect the local conditions.

District and city planning commissions are the primary and most numerous link in the system of planning agencies in the Soviet Union. There are now more than 5,000 such commissions. They draw up plans for the work of industrial enterprises, schools, hospitals, housing and public utilities, cultural establishments, etc., under the jurisdiction of the district or city Soviets.

The role of these commissions in planning agriculture has been greatly enhanced in recent years. In view of the abolition of district agricultural boards and the reorganisation of the machine-and-tractor stations, the planning of agriculture in the districts and also accounting and control of plan fulfilment is done by the district planning commissions. Draft assignments for the development of agriculture by the collective farms and plans of purchases of agricultural produce are drawn up by the district planning commissions and submitted for approval to the executive committee of the district Soviet. In their activities district

planning commissions are aided by the agricultural councils of the district executive committees.

District planning commissions also exercise daily and effective control over the fulfilment of agricultural development plans and, specifically, the supply of the collective farms with materials and equipment. In drafting plans and controlling their fulfilment, as well as in framing measures for economic development, planning commissions draw on the assistance of deputies of local Soviets and front-rank workers.

4. Tasks and Functions of the Economic Councils and Enterprises in Planning

An economic council of an economic administration area is the basic organisational form of industrial management by the state. It represents a new stage in the application of the principle of democratic centralism.

The main task of the economic councils is to improve the organisation of production and planning at industrial enterprises and construction sites and ensure a high rate of development of the productive forces, to utilise rationally and thriftily the material, labour and financial resources and all the natural wealth of the given economic area.

On the basis of the plans put forward by enterprises economic councils draw up summary plans which cover production, capital construction, the development and introduction of new technology, research and experimental designing work, repairs, co-ordinated deliveries of goods, shipment of goods by rail, water and motor transport, labour productivity and production costs, and also the supply of materials and equipment for all the enterprises under their jurisdiction.

An economic council approves the plans of capital construction in its area, the assignments for construction projects, technical designs and estimates for the building of new and reconstruction of operating enterprises. It is a

primary task of economic councils to provide in their plans for the further industrialisation of construction work, overall mechanisation of construction, the introduction of faster building methods, the maximum use of standard designs, and also to ensure the reduction of the cost and improvement of the quality of designing and survey work.

An economic council analyses the efficiency of capital investments in new construction and in the introduction of new technology and approves those variants which give the best yield for the national economy.

In the field of labour organisation, an economic council draws up labour plans, takes measures to strengthen labour discipline, to improve the setting of work norms and remuneration of labour, to improve the working conditions and also housing and cultural and other services available to the workers. Decisions and orders of an economic council pertaining to problems of labour organisation, housing, cultural and other services for the personnel take into account proposals of trade unions.

The economic councils perform important functions in planning the material supply of enterprises and construction sites. An economic council has the right, when necessary, to re-allocate resources between its subordinate enterprises and construction sites.

The transfer of the peripheral network of sales organisations to the Councils of Ministers of the Union republics and other measures concentrating direction of local sales organisations in the economic councils were a decisive factor in improving the planning and organisation of material supply after the reorganisation of industrial management.

In drawing up supply plans, the economic councils work out norms of expenditure of raw and other materials, fuel and electric power in industry and construction and also norms of production stocks and draft state standards, which are then submitted for approval to the republican gosplans. The economic councils have the right to approve

technical specifications for the goods to be produced and also the most important technological instructions.

An economic council draws up the balances of income and expenditure (financial plans) and summary estimates for the establishments under its financial jurisdiction, taking into account the proposals of trade-union organisations, and submits them for approval to the Council of Ministers of the Union republic; it decides questions of the financing of subordinate enterprises, organisations and institutions and controls their financial activities, elaborating and applying measures for raising their profitability; it draws up proposals on prices which have to be approved by higher bodies.

The plans of an economic council provide for measures to improve the organisation of production, ensure the continuous flow of work in enterprises, to introduce advanced technology and highly productive equipment, to mechanise and automate production processes, to mechanise comprehensively various jobs, widely to apply advanced experience of enterprises and innovators, improve the quality and extend assortment of output and also to reduce production costs.

An economic council also guides the activities of research and designing organisations and of educational establishments under its jurisdiction.

One of the major tasks of an economic council is to organise, jointly with the trade unions, socialist emulation, to stimulate the initiative of workers towards the completion of production and construction plans ahead of time, further to raise labour productivity, spread the best experience, improve quality and cut costs in production and construction.

In their planning activities economic councils are guided by the main aims of the national economic long-term plan and they ensure in the first place the satisfaction of the general needs of the state, i.e., fulfilment of obligations to deliver goods for all-Union needs and for export, and

also to make co-ordinated deliveries to enterprises of other economic areas and Union republics.

From this it follows that one of the prime tasks of an economic council in drafting the production and construction plans is to study the requirements in industrial goods not only of its own area, but also of economic areas that have extensive ties with it, and to take into consideration these requirements in plans so as to meet first of all the general state needs.

The economic councils have under their jurisdiction enterprises not of a particular industry, as was the case under the old system of management, but the entire range of large industrial establishments in the given economic area (except small establishments under the jurisdiction of local Soviets). They plan the development of the area's economy on the basis of co-ordinating production in all branches of industry, dovetailing it with the other branches of the area's economy subordinate to the local Soviets or other bodies, and providing for maximum use of the mineral and agricultural raw materials and the power resources of the area.

An economic council arranges the specialisation and co-ordination of industrial enterprises, carrying on this work jointly with the republican gosplan and the Gosplan of the U.S.S.R. It rationally locates new industrial enterprises in the territory of the area and takes the necessary measures to establish the most rational production ties between the enterprises of the area and also with enterprises in other areas.

In elaborating measures for the further specialisation and co-ordination of production and the elimination of excessively long shipments, cross-hauls and other irrational shipments, an economic council takes into consideration the traditional ties between enterprises and organisations of the given area with those in other areas. All proposals of an economic council on changes in co-ordinated deliveries should be agreed upon with the corresponding en-

terprises, economic councils and planning agencies. This co-ordination is changed only with the consent of both the producers and the consumers.

An economic council studies the economy of its area and analyses the processes taking place in it, works out proposals for major national economic problems and submits them to the Council of Ministers of the republic or directly to the Gosplan of the U.S.S.R.

The technical and economic boards set up as advisory agencies of the economic councils render the latter great help in planning and especially in solving principal technological and economic problems. These boards consist of eminent scientists, outstanding specialists, front-rank workers, inventors and rationalisers, leaders of Party, governmental, economic, trade-union, Komsomol and other organisations. They examine economic and technological problems of industry and construction, improvement of production organisation, the efficiency of production processes, stimulation of inventions, co-ordination and specialisation of production, the organisation of labour and wages, and also problems of rational production ties.

The economic councils need statistics for drafting plans and for directing the economy under their jurisdiction. They obtain the necessary statistics on plan fulfilment by industrial enterprises, construction organisations, and other establishments from the respective departments of the Central Statistical Board of the U.S.S.R. in the given area. Enterprises directly subordinated to the economic councils submit to them copies of the primary reports they send to the statistical boards.

As the body entrusted with the direct management of industry, an economic council organises the drafting of plans not only for an area as a whole, but for each enterprise as well. It organises the work of enterprises and construction sites in drawing up long-term and current plans, giving them the necessary data in the form of control figures for long-term, annual and quarterly plans. An eco-

economic council approves the long-term and annual plans of enterprises and construction sites, after which these plans come into force.

An economic council directs the work of its subordinate enterprises, construction sites and other organisations in carrying out the planned assignments for the production and deliveries of raw and other materials, fuel, electric power, equipment, semi-manufactures and components and in fulfilling other obligations that follow from contracts, not allowing parochial tendencies. Economic councils bear special responsibility for the fulfilment of assignments for deliveries to other areas under co-ordination programmes. Under existing regulations, the plan of an enterprise or an organisation is not considered fulfilled if it fails to make the co-ordinated deliveries envisaged in plans or special decisions of the Council of Ministers of the U.S.S.R. or republican Councils of Ministers.

In the course of plan fulfilment an economic council has the right, on the basis of available reserves of raw materials and equipment and the possibilities brought to light, to fix additional production assignments for enterprises and also to change, with the consent of customers, the volume of production of separate items as against assignments envisaged in the approved plan; in such cases corresponding alterations are introduced in other targets of the plan, but without reducing the plan of accumulations and payments to the budget. In case of necessity, owing to changes in dates for repairs of equipment, an economic council (with the consent of customers) introduces changes in production plans for quarters, without reducing the annual plan and without altering payments into, and receipts from, the budget for the economic council as a whole.

To make better use of capacity reserves and to load up enterprises more fully, without detriment to plan fulfilment, the economic councils have the right to accept orders for the manufacture of goods from materials provided

by customers and to distribute these orders among enterprises, taking into account the possibilities of utilising local raw materials, fuel and waste products.

An economic council leaves at its own disposal a reserve of up to five per cent of the total allotted capital investments, reserves of materials and equipment, reserves as regards the total number of workers and wage fund, utilising them in the course of plan fulfilment. In so doing, an economic council has no right to reduce the volume of capital investments stipulated in the plan for the key raw material, fuel and power industries or the assignments for the commissioning of productive capacity in these branches, or to cut housing construction.

The quarterly plan for reducing the cost of saleable output may be altered by an economic council within the limits of one per cent of the quarterly figure originally approved for the area as a whole, but without altering payments into, and receipts from, the budget. All changes introduced in plans by economic councils are reported to the republican gosplan and, when necessary, to the republican finance ministry.

The enterprise, whether in industry, agriculture, transport, construction or any other economic sphere, represents the most vital link of planning in the socialist economy. The activities of each enterprise in socialist society are directed by the economic plan which is drawn up in accordance with the production potentialities at the given enterprise and the interests of the socialist state.

In conformity with the new planning procedure, the economic plan of an enterprise is drawn up in great detail by the personnel itself and it includes a wide range of economic and financial targets.

The main direction of long-term plans of enterprises is set in the control figures for the economic development of the Soviet Union, which are communicated to the enterprises by the economic councils. In co-operative organisations the direction of their activities is laid down by meet-

ings of members and by regional and republican leading bodies.

The main task of a state enterprise is to fulfil the plan for all targets, to meet the assignments as regards the volume of work, to fulfil all obligations under contracts, to put out goods of high quality and constantly improve that quality, to raise the quality of construction work, to build by the specified dates industrial premises, houses, cultural and other service establishments.

The principal tasks of socialist enterprises are to increase labour productivity, to tighten up cost accounting, to ensure the maintenance and proper use of the fixed assets and circulating funds, to cut production and construction costs, and to raise profitability.

Planning departments assist in the management of enterprises, in the planning of their activities. Individual shops have planning bureaus or groups. The planning departments enlist the entire personnel in drawing up the technical production and financial plans of an enterprise, or *tekhpromfinplan* as it is called for short.

The *tekhpromfinplan* is the basic summary plan drawn up by the enterprise itself for a wide range of targets. It is based on the control figures, technical norms and the production experience of the enterprise.

The *tekhpromfinplan* consists of seven main sections:

1. *The production programme* fixes the nomenclature of articles, the quantity of output, the production schedule by days, months, quarters, gross and saleable output, forms of production co-ordination and ties with other enterprises, the use of productive capacity and other indices of technical and economic performance.

2. *The technical plan* outlines the organisational measures for the introduction of new machinery, the modernisation of equipment, the design and manufacture of new machines, improvement of the technology of production and also measures for improving the assortment and the quality of output.

3. *The plan for labour and wages* includes the targets as regards the number of workers, improvement of their skill, growth of labour productivity and the wage fund.

4. *The plan for production costs* sets the assignments as regards the reduction of production costs.

5. *The material supply plan* indicates the requirements in raw and other materials, fuel, electric power and new equipment and the sources for meeting these requirements.

6. *The capital construction plan* determines the volume of construction work to be done at the enterprise, the dates for commissioning new capacity and separate units, the requirements in labour and building materials and the targets for the reduction of construction costs.

7. *The financial plan* reflects, in money terms, all the previous sections of the *tekhpromfinplan*, i.e., it determines the outlays for buying everything needed for production and construction, for the payment of wages, the carrying out of organisational and technical measures and for the repair and maintenance of the fixed assets. The same section specifies the income from the sale of goods and the financial relations of the enterprise with budgetary agencies (taxes, other payments, credits, etc.).

Planning departments co-ordinate the targets in all the sections of the *tekhpromfinplan*, draw up production schedules, make estimates of production, calculations, set the norms of expenditure and stocks of raw and other materials, determine the wage fund, the requirements in labour, etc.

Together with the bookkeeping office, the planning department effects cost accounting and collects statistics, analyses the activities of the shops and the enterprise as a whole, and also prepares summary annual reports.

Planning departments help managements to create all the conditions for the fulfilment of plans; they work out the assignments for the shops, teams and individual workers and organise control of their fulfilment; they elaborate

measures to ensure the fulfilment of all the targets in the plan.

The new planning procedure promotes the maximum utilisation of all production potentialities with the aid of the working people themselves. The initiative of the workers, foremen and technicians, of the millions of Soviet people who take an active part in drafting the plans, enriches planning as such.

At enterprises plans are drawn up with the participation of the workers, of the trade unions and Party organisations who best of all know the potentialities for expanding production at the given factory or mine.

For this reason it is possible in drafting plans to provide for the all-round mobilisation of production reserves, to take into account the proposals of the workers and engineers for improving the technology of production and for saving materials and money. The requirements of an enterprise in circulating funds, capital investments and labour are thus most fully grounded.

Socialist emulation is an important form of participation of the working people in accomplishing the tasks set out in the plans.

The regularly functioning *production conferences* hold a special place in the management of industrial enterprises, construction sites, state farms and repair-and-service stations. These conferences concentrate on problems of fulfilment and overfulfilment of plans, the fullest utilisation of internal production reserves and the provision of conditions for higher labour productivity and improvement of management.

The delegates to production conferences are workers and other employees, representatives of the trade union, the management, Party and Komsomol organisations, of scientific and technical societies, societies of inventors and rationalisers.

In the field of planning the production conference performs the following functions:

takes part in drawing up and discussing draft current and long-term production plans;

hears reports of management about the current work and the results of economic activities for a definite period;

discusses plans of organisational and technical measures, mechanisation, the introduction of new technology, the application of proposals by rationalisers and inventors;

examines plans of industrial construction, the building of houses, cultural and other service establishments and measures for the efficient use of money allotted for investment.

Chapter II

LONG-TERM NATIONAL ECONOMIC PLANS

1. Leading Role of Long-Term Planning in Socialist Economy

Planning of the economy in the Soviet Union proceeds along two main lines, namely, the drawing up of long-term plans for five or seven years or for longer periods, and current plans, as a rule, for one year.

Long-term plans hold the leading place in Soviet national economic planning. Lenin pointed out that a socialist state must first of all work out long-term economic plans which concentrate the efforts of the people on the accomplishment of the tasks of communist construction. The plan for the electrification of Russia was the first long-term state plan designed for 10-15 years. It was drawn up with the direct participation of Lenin, and its main aim was to lay the foundations of a socialist economy in the Soviet land. Lenin attached great importance to this plan and called it the "second programme of the Party".

The need for long-term planning arose in connection with the country's electrification, its industrialisation, i.e., the creation of the material and technical basis for socialist production.

In keeping with Lenin's directives on the importance of long-term planning, the Soviet Government has drawn up seven plans for five or seven years, the main outlines of

the programme of communist construction for 20 years which will be examined at the Twenty-Second Congress of the C.P.S.U., and also several long-term programmes for the development of separate branches of the economy for longer periods, such as the 15-year railway electrification plan, the housing construction programme designed for 10-12 years, etc.

The fulfilment of the preceding long-term plans has created the prerequisites for undertaking the sweeping tasks of communist construction over the next 20 years. The main objectives of the general long-term programme for the economic and cultural development of the Soviet Union, according to the decisions of the Twenty-First Congress of the C.P.S.U., is to build the material and technical basis of communism, to accomplish the main economic task of the Soviet Union and, on this basis, to bring the Soviet people the highest living standard in the world.

The need to draw up plans for longer periods—7 and 20 years—stems from the nature of the problems being solved at the present stage in building communist society. The ultimate purpose of these plans is to create the economic and social conditions for the application of the communist principle: "From each according to his ability, to each according to his needs".

This epoch-making goal can be attained only through a new powerful advance of all branches of the economy, the enormous development of the productive forces, further technical reconstruction of all branches, the introduction of the latest achievements of science and technology, the cultural advance of the people and a rapid growth in the productivity of social labour.

It is in the long-term plans that the socialist state especially displays its ability not only to foresee the course of economic development, but also, by utilising the economic laws, to work out a system of effective measures for developing the national economy over a long period.

These plans help to solve the primary problems of economic development, to determine the directions of capital investments in branches and Union republics, which in turn largely governs the rates of, and proportions in, economic growth. These plans provide for the development of new industrial areas, the building of the biggest enterprises, power stations, transport arteries, irrigation systems, etc.

Long-term plans stipulate systematic prospecting for mineral resources and their tapping, the development of areas with newly discovered natural mineral resources; they ensure the necessary structural changes in the location of industrial and agricultural production and the bringing into line of the lagging areas with the advanced ones.

Long-term plans play a tremendous part in the creation of new, and the modernisation of existing, basic facilities, in the technical reconstruction of enterprises and in the determination of the technical policy in the national economy.

Planning agencies provide in long-term national economic plans for further electrification, the spread of chemical processes and over-all mechanisation and automation as the chief means of securing technical progress and, on this basis, the further growth of labour productivity and reduction of production costs.

Long-term plans establish the necessary proportions for the branches of the economy, the rational location of the productive forces in the Union republics, specialisation and co-ordination of industrial and agricultural production with a view to making the fullest use of productive capacity and the natural and labour resources of each area.

Long-term plans call for the most efficient utilisation of state funds allotted for construction and for the introduction of new technology. Production programmes are drawn up in such a way as to secure the maximum use of internal reserves, the most economical expenditure of raw and other materials, fuel and electric power, efficient use

of equipment and reduction of production and circulation costs.

Long-term plans map out the directions for the development of various branches of agriculture and measures for increasing agricultural production on a scale sufficient to satisfy the requirements in foodstuffs and to expand the output of raw materials for industry.

Long-term plans also outline ways of developing socialist production relations and bringing the two forms of socialist property—collective-farm and state—closer together.

These plans are of great importance in steadily raising the material and cultural standards of the people. They outline an extensive programme for improving the welfare of the people, set the growth rates for the production of consumer goods, for housing construction, fix targets for raising wages and improving the wages structure, for reduction in the working day, and for increasing labour productivity, raising the real incomes of the working people and reducing prices, and establish the state expenditure on social and cultural services.

The decisions of the Twenty-First Congress of the C.P.S.U. on the control figures for 1959-65 gave the Soviet people a clear perspective of, and confidence in, the victory of the great cause of communism.

The Seven-Year Plan sets the principal economic tasks of the new period in the development of the Soviet Union and unfolds the magnificent perspective of full-scale communist construction.

“The principal target of the Seven-Year Plan of Economic Development of the U.S.S.R. for 1959-65,” it is pointed out in the control figures approved by the Twenty-First Congress, “is to effect a further steep rise in all branches of economy on the basis of a priority growth of the heavy industry and a substantial increase in the country’s economic potential with the purpose of ensuring a steady improvement of the standard of living.

“Fulfilment of this plan will be a decisive step towards the establishment of the material and technical basis of communism and the implementation of the basic task of the Soviet Union, which is to overtake and surpass the most highly developed capitalist countries in output per head of population within a historically short space of time.”*

The Twenty-First Congress of the Party and the Soviet Government also outlined in the control figures the basic directions of economic development, namely,

set high rates of, and the necessary proportions in, the development of the national economy, including an increase of total output of industry by 80 per cent, agriculture by 70 per cent, and of the national income by over 60 per cent;

considerably raised the growth rates for ferrous and non-ferrous metals in order to satisfy more fully the rising requirements of the national economy. In 1965, steel production will reach a top level of 91 million tons; aluminium production is to grow approximately by 180 per cent, and refined copper, by 90 per cent;

provided for the accelerated development of the chemical industry, and particularly the output of artificial and synthetic fibre, plastics and other synthetic materials. The chemical industry is to treble production, with the output of artificial fibres rising fourfold, and plastics and synthetic resins, more than sevenfold;

called for a change in the structure of the fuel balance through priority growth of the production of the more economical fuels—oil (240 million tons) and gas (up to 150,000 million cu m). These changes will send up the share of oil and gas in total fuel production to 51 per cent;

provided for the rapid electrification of all branches of the economy by building chiefly large thermal power sta-

* *Decisions of the Twenty-First (Extraordinary) Congress of the Communist Party of the Soviet Union, Moscow 1959, p. 63.*

tions. The production of electric power is to rise by 120 per cent (to 500,000-520,000 million kwh);

provided for the further development of the engineering and precision instruments industry, in order to supply new highly efficient machinery, equipment and precision instruments for over-all mechanisation and automation. The output of the engineering and metal-working industries will approximately double;

provided for the technical reconstruction of the railways on the basis of electrification and the wide introduction of diesel traction, which will bring up the share of diesel and electric traction in total rail freight traffic to 87 per cent in 1965;

determined the further advance of all branches of agriculture, ensuring the satisfaction of the constantly growing requirements of the country in food and raw materials. Grain production is to be brought up to 164-180 million tons and cotton production to 5.7-6.1 million tons;

called for the rapid expansion of housing construction so as to complete the task set by the Party and the Government of eliminating the housing shortage.

The control figures stipulate a substantial rise in the output of consumer goods so as to satisfy the requirements of the population in fabrics, clothing, footwear and other goods. Provision is made for the expansion of public catering and other social services and also for the extension of the network of boarding-schools, kindergartens and nurseries as the main forms of the communist education of the younger generation.

These tasks indicate the direction of economic development, the main elements of the Seven-Year Plan and the primary economic problems which the Soviet people have to solve in the new period of the country's advance.

The growth of labour productivity is the decisive condition for the accomplishment of these principal tasks at the present stage. Labour productivity is to rise on the basis of continuous technical progress, radical reconstruc-

tion and technical modernisation of enterprises, over-all mechanisation and automation and the wide introduction of the latest achievements of science and technology in all branches. The Seven-Year Plan offers wide scope for the development of all spheres of science, for theoretical research and new important scientific discoveries and their application.

One of the primary tasks set in the current Seven-Year Plan is intensively to tap the rich natural resources of the country, improve the location of the productive forces, bring industry nearer to sources of raw material and fuel and to consuming areas. In line with this policy the Seven-Year Plan, in addition to envisaging the growth of the productive forces in the old industrial areas in the European part of the country, makes special provision for tapping the natural wealth of the eastern regions and placing their huge raw material and power resources at the service of the national economy. This will be accomplished through the building of power stations in Siberia that work on cheap coal, through the development of a new centre of the gas industry in Uzbekistan, the substantial expansion of the non-ferrous metal industry in Kazakhstan and Central Asia, the accelerated growth of the chemical industry in Central Asia, and through the rapid development of timber felling in Siberia and the Far East.

The main targets of the Seven-Year Economic Development Plan of the U.S.S.R. for 1959-65 are given in Table 1.

The increase in the production of the most important industrial goods in the seven-year period is to be the biggest in the history of socialist planning.

Alongside the targets of economic development for 1959-65, the Twenty-First Congress of the C.P.S.U. formulated directives for the further advance of socialist culture and the spiritual progress of Soviet society.

The Seven-Year Plan has its distinctive features. First, it is an integral part of the general long-term programme of national economic development for the next 20 years;

Table 1

Main Targets for the Development of the National Economy in 1959-65

	Unit of measurement	1965 maximum envisaged in the control figures	1965 (1958=100)	Average annual absolute increase over period	
				1959-65 (plan)	1952-58
I. Gross output of industry	percentage	—	180	8.6	—
Steel	million rubles	—	—	13,500	9,000
Oil	million tons	91	170	5.1	3.4
Output of the chemical industry	" "	240	210	18.1	6.6*
Electric power	percentage	—	300	—	—
Cement	million kwh	520,000	220	41,000	18,400
Fabrics, all kinds	million tons	81	240	6.8	3.0
Knitted underwear	million metres	10,300—	—	—	—
Leather footwear	millions	10,600	140	460	280
		780	200	55.4	28.0
	million pairs	515	150	29.0	16.5
II. Gross output of agriculture	percentage	—	170	8.0	—
Grain	million tons	164-180	130	—	—
Meat (from state resources)	thousand tons	6,130	220	471	206
Milk products	" "	13,546	230	1,075	626
Granulated sugar	" "	10,000	200	693	310
III. Rail freight traffic	million ton/km	1,850,000	140	—	—
IV. Capital investments	million rubles	197,000	180	—	—
V. Retail trade	" "	108,000	160	—	—
VI. Housing completed	million sq m	660	230	—	—
VII. National income	percentage	—	160	—	—

* 1951-55.

second, it embodies a further development of the Leninist principles of management and planning; it has taken into account the original drafts of enterprises, economic councils and republics and has been drawn up with the active participation of many scientists and specialists and millions of working people.

2. General Principles of Drafting Long-Term and Annual Plans

The principles of drafting national economic plans stem from the essence of the Soviet system, which draws millions of working people into administering the state and managing the economy, from the nature of the socialist planned economy.

As pointed out earlier, a number of radical measures improving the organisation and methods of long-term planning were taken in 1958 with the object of utilising most fully the advantages of planned economy and bringing the planning system in harmony with the new organisational forms of management. The biggest change was in the organisation of long-term planning in the periphery.

One of the chief shortcomings in the old system of planning was the discrepancy between the elaboration and approval of annual plans and the continuous nature of the production process. The plans fixing the production assignments ended abruptly at the close of the calendar year. This often led to a situation when many enterprises, construction sites and state farms had no assignments for the next year. As a result great difficulties would be encountered in preparing production for the next year, obstacles would arise to the normal supply of materials and equipment for the needs of production and construction. Under these circumstances, enterprises in most industries took a long time to draw up their plans.

As a result of miscalculations in dovetailing programmes of enterprises with the national economic plans a

need would arise in the course of the year to introduce numerous changes in the approved plans, which interfered with the continuity of the production process and involved unnecessary expenditure on altering the production process because of the adjustments in the plan. Long-term measures for the development of separate industries, elaborated by all-Union ministries and departments, were not sufficiently co-ordinated with the general resources of the state and did not conform to the available material and financial resources.

Moreover, the absence of national economic plans for periods of more than five years prevented planning agencies from co-ordinating the contemplated development of some branches over longer periods with the general resources of the country. Owing to this, the long-term targets envisaged in government decisions could not always be fully taken into consideration when preparing the annual economic plans.

The absence of approved long-term programmes for each enterprise and economic area gave rise to shortcomings in planning in the past. Another essential shortcoming in the drafting of long-term plans by ministries and central planning agencies was the fact that this work was done without sufficient participation of the enterprises, of research and designing organisations. Such a system often led to inadequate use of available reserves for the growth of labour productivity, reduction of costs and expansion of output.

In many cases targets for the development of the national economy were set without adequate substantiation of the efficiency of the contemplated investments. For example, investments in the fuel industry were channelled mainly into the coal industry. Had the same investments been made in the oil and gas industries they would have yielded a much greater economic effect.

In the past enterprises often did not know at the initial stage of planning what raw materials and other resources

they could count on for expanding production. As a result, enterprises and construction sites at times did not get the complete range of raw and other materials and equipment they needed.

The fundamental reorganisation of the old system has created the conditions for eliminating these shortcomings in planning both for the country as a whole and for separate branches, republics and enterprises.

Today, the initial document in drafting long-term plans is the control figures of national economic development, elaborated by the Gosplan of the U.S.S.R. with the participation of the republican gosplans, ministries and departments, and approved by the highest Party and Government bodies.

The control figures are drawn up with an account of the economic level achieved by the country and the requirements of the economy at the given stage. Making use of the control figures, the C.P.S.U. defines the general economic and political goals of the plan and, what is especially important, its main sectors and the key economic tasks which should be accomplished in the planned period.

Lenin pointed out that in each period it is necessary to find in the long-term plans those key sectors which are decisive for the accomplishment of all the tasks. At the stage of working out the control figures, key branches are singled out which serve as a starting point for determining the increases in productive capacity and the scale of production and investments. At the present stage such key branches are the main raw material and fuel industries (metallurgical, chemical and fuel), the power industry and agriculture.

The control figures, as it were, make up the framework of the long-term economic plan of the Soviet Union drawn up on their basis and broken down into plans for each Union republic.

The Councils of Ministers of the Union republics prepare control figures for the economic councils, republican

ministries and departments and the executive committees of the local Soviets, which, in their turn, set the control figures for the enterprises and construction sites.

The control figures for the entire country establish the rates and correct proportions in developing the national economy, proceeding from the principal task—to ensure the further advance of the country to communism.

An important principle of long-term economic planning is to combine it closer with current planning, with the former playing the leading part. Whereas long-term plans characterise the political and economic programme of the Communist Party and the Soviet Government over a long period, the annual plans bring out in detail the concrete tasks for a shorter period which follow from this programme.

All economic planning in the Soviet Union is based primarily on long-term plans. Annual economic plans of the U.S.S.R. are drawn up on the basis of the approved control figures for the seven-year period and the long-term plans of the Union republics, economic administration areas and enterprises.

The draft budget of the Soviet Union, the balance of revenue and expenditure, draft financial plans, estimates of expenditure and plans of revenue are drafted annually on the basis of the national economic development plan of the U.S.S.R.

By September 1, the Councils of Ministers of the Union republics submit to the Government of the U.S.S.R. (with a copy to the Gosplan and the Finance Ministry of the U.S.S.R.) draft budgets of the republics, with balances of revenue and expenditure and calculations for the economic councils, republican ministries and departments, as well as enterprises and construction organisations subordinate to local Soviets.

Simultaneously the republican Councils of Ministers submit draft norms of expenditure of raw and other materials, norms of stocks of raw and other materials and

fuel and also calculations for the reduction of production costs in the course of the year. Ministries and departments of the U.S.S.R. submit their draft balances of income and expenditure to the Gosplan and the Finance Ministry of the U.S.S.R.

The Council of Ministers of the U.S.S.R. submits the national economic plan and the draft budget to the Supreme Soviet of the U.S.S.R. Before the Supreme Soviet meets these drafts are studied by the standing Budget Commissions of its two Chambers, the Soviet of the Union and the Soviet of Nationalities. The plan and budget are also examined by the Economic Commission of the Soviet of Nationalities. This Commission thrashes out a single viewpoint, acceptable to all the Union republics, on problems of their economic and cultural development, proceeding from the general interests of the Soviet Union. The work of the Economic Commission makes it possible to take fuller account of all the specific features and interests of the Union republics.

The Budget and Economic commissions present their recommendations on the plan and the budget to the Supreme Soviet session. Following a discussion, in the course of which amendments are submitted, the Supreme Soviet of the U.S.S.R. approves the plan and the budget which become law.

The republican Councils of Ministers bring the annual economic plans for the republic, economic councils, territories and regions into line with the approved national economic plan and budget, taking into consideration inter-republican ties.

The approved plan of a republic may differ from the targets of the long-term plan for the given year and from the original plan drafted by enterprises and construction sites, inasmuch as it takes into account more accurately and comprehensively the requirements of the entire national economy, the scale of the available material supplies, the dates when they are to be received, and the amount of

capital investments for the current year. The state plan assignments are law and must be undeviatingly carried out by all enterprises and economic organisations.

The Twenty-First Congress of the C.P.S.U., approving the control figures of economic development for 1959-65, advised the Central Committee of the C.P.S.U. and the Council of Ministers of the U.S.S.R. to introduce in the annual plans, drawn up on the basis of the control figures, changes necessitated by the country's economic progress.

Throughout the period covered by a long-term plan adjustments are introduced in the annual economic plans. These adjustments follow from plan fulfilment, the developing economic ties and changed requirements in goods. Long-term plans may be changed throughout the year for separate targets and once a year for the entire range of targets. Such changes are presented for approval to the Government.

The additional accumulations resulting from the over-fulfilment of assignments in the first years of the Seven-Year Plan have made it possible to increase capital investments over and above the original estimates. More than 100 million rubles were invested additionally in the sugar, meat-packing, dairy and textile industries in 1959 and 1960. In the seven-year period 2,500-3,000 million rubles over and above the original allotments will go for the development of the textile and footwear industries and their raw material resources.

Contemplated changes in, and more precise specification of, the assignments of the general state plans are worked out by the Gosplan of the U.S.S.R. with the participation of the Union republics on the basis of a systematic control of plan fulfilment and a study of the growing requirements of the national economy.

Changes in the annual plans of the Union republics are introduced by republican Councils of Ministers and in the plans of enterprises, by the economic councils and the lo-

cal Soviets. All this work is so arranged that the necessary changes should be introduced by all enterprises and construction sites not later than November 15, that is, a month and a half before these plans come into force.

Annual changes in, and specification of, economic plans designed for a longer period and the drawing up of summary annual plans are necessitated by the following economic and financial considerations:

1) the material and technical preparation of production in most industries usually has its own cycle, within the limits of a calendar year, because that cycle is connected with seasonal fluctuations, differing conditions of production in various seasons of the year, etc. On the other hand, the annual plan of economic and financial activity of an enterprise is drawn up for a very wide range of targets, while the long-term plan gives merely the general direction and cannot contain a detailed specification, particularly of the entire assortment of goods in physical volume. Hence the need to elaborate these targets every year;

2) changes in the balance of productive capacity of enterprises can be most fully revealed and taken into account in the course of the year as some capacity is commissioned and other is worn out or becomes obsolescent;

3) new scientific and technical discoveries, inventions, rationalisation proposals and improved technology may dictate substantial changes in long-term plans;

4) the raw material resources of the food and light industries largely depend on the situation in agriculture in the given year;

5) it is difficult to draw up long-term plans of material supply for individual producers and consumers, except regular co-ordinated deliveries;

6) the annual plan for the allocation of output, the plan of inter-republican deliveries and deliveries for all-Union needs are determined by the division of labour and pro-

duction ties among Union republics and areas and also by more thorough specialisation and co-ordination;

7) the drafting of summary financial plans of the economic councils is connected with the drawing up of the annual budgets of the Soviet Union and of the Union republics;

8) plans of state and co-operative trade can be co-ordinated in greater detail with the balance of the money income and expenditure of the population and the resources of commodities for the year;

9) every year it is necessary to co-ordinate the targets in the economic development plan of the U.S.S.R. with the plans of the other socialist countries, taking into account specialisation, greater co-operation in production and in technology; it is also necessary to dovetail production plans into export and import programmes.

In drawing up annual economic plans, it is necessary above all to specify the requirements of the economy for the given period. The production programme and the capital construction plan must be made consistent with all the available material and financial resources. It should be noted that a long-term plan can and should be adjusted as regards the targets not only of the planned year, but of the next year as well.

The experience of long-term planning shows that in the process of plan fulfilment the requirements of the national economy should be co-ordinated with the production possibilities and the financial and material resources for five years ahead.

The principle of continuity in planning presupposes that simultaneously with specifying the targets of the current annual plan, planning agencies should work out the main targets for the first year of the next five- or seven-year plan, while the assignments for the remaining years of the current five- or seven-year plan should be adjusted with account of plan fulfilment in the preceding years. The adoption of this procedure in planning makes it possible

to combine most fully annual and long-term planning, better to co-ordinate the assignments for each planned year with the prospect of economic development for the next five- or seven-year period.

Important changes have been introduced in the planning of different branches of the national economy.

In contrast to the previous system of planning capital construction, when the volume of capital investments and construction work was fixed as a whole, now the plans specify capital investments separately for the construction of industrial installations and the building of houses and cultural and other service establishments and also single out investments in the construction industry. The volume of industrial construction is approved by the Central Committee of the C.P.S.U. and the Council of Ministers of the U.S.S.R. in the general state plan for each Union republic. The scale of construction is specified for 14 major branches of the economy: the iron and steel and non-ferrous metals, chemical, oil and gas, coal, power, engineering, defence, radio engineering, building materials and construction, timber, paper and woodworking, light and food industries and agriculture. Capital investments in other branches are allocated for the Union republics on the basis of the general volume fixed in the state plan for each republic, the assignments for commissioning productive capacity and the directions of economic and cultural development.

The procedure for the approval of the lists of projects by the Council of Ministers of the U.S.S.R. and the Central Committee of the C.P.S.U. has also been changed. Only the most important projects are listed separately and approved in the national economic plans. New projects with an estimated cost of over 2.5 million rubles are included in the lists only by agreement with the Gosplan of the U.S.S.R. The procedure for the approval of the lists of all other projects with a smaller estimated cost is established by the republican Councils of Ministers and the economic councils.

Essential modifications have been introduced into the organisation of planning the supply of materials and equipment. Now that the rights of enterprises, economic councils and Union republics in planning have been extended and the sale and supply of industrial goods are concentrated in the economic councils, the drafting of plans of material supply has been shifted directly to the economic councils and republican bodies. In view of this, all sales offices and warehouses in an area have been placed under the jurisdiction of the respective economic council.

The old system of supply planning limited the possibility of manoeuvring with resources and reduced the importance of economic contracts between enterprises. Direct contracts between producers and consumers of goods, within the bounds of the allocations and assignments fixed by the economic councils, ministries and departments, are now recognised as the most efficient form of the supply and sale of materials and equipment.

In the new conditions, the annual plan of material supply, with the allocation of raw and other materials, fuel, electric power and equipment to consumers, is drawn up and approved by the Gosplan of the U.S.S.R. for a definite, limited range and by the republican gosplans, for a wider range.

The output allocated by the Gosplan of the U.S.S.R. includes key items, for example iron and steel, fuel, major chemicals, building materials, equipment, etc.

The Gosplan has to draw up, with the participation of the Union Republics, ministries and departments, a plan for the supply of materials and equipment to the national economy every year, and to approve it. This plan includes material balances, plans for the allocation of important goods and plans of inter-republican deliveries and deliveries for all-Union needs. The nomenclature of goods allocated by the Gosplan of the U.S.S.R. is co-ordinated with the republican gosplans. The plan for 1960, for example, included 11,000 items. Among them were metalwares, hard

fuel, oil products and gas, products of the chemical, rubber, timber and paper industries, building materials, the output of the engineering, light, textile and food industries.

The plan of inter-republican deliveries shows the quantities of goods which a given republic has to supply to other consumers and also the goods it has to receive from other republics and suppliers. But to determine correctly the amount of goods that a republic has to receive and to deliver, a preliminary calculation is made of the output and the requirements of each republic for a definite nomenclature of goods; balances of material resources and consumption for the Soviet Union as a whole and for each Union republic are compiled for a detailed assortment. Without these preliminary calculations it is impossible to prepare the plan of inter-republican deliveries. To make these preliminary calculations the Gosplan of the U.S.S.R. gets from all consumers, in the first place from the Union republics, estimates of the production programme and the requirements in material resources and also a republican balance of resources and consumption.

On the basis of the material balances submitted by the Union republics and also the calculations of the requirements of the republics, ministries and departments, the Gosplan draws up summary material balances and plans for the allocation of each kind of goods.

To indicate the trends in using material resources, the Gosplan submits summary balances and plans for the allocation of about 130 important kinds of goods for approval to the Central Committee of the C.P.S.U. and the Council of Ministers of the U.S.S.R. These items include ferrous and non-ferrous metals, fuel, oil products, electric power, chemicals, timber and building materials, equipment, agricultural raw materials and the main goods of the light and food industries.

The plans of material supply, drawn up by the Gosplan and approved by the Council of Ministers of the U.S.S.R.,

underlie the material supply plans of the Union republics which are drawn up for economic councils, republican ministries and departments and local Soviets and for enterprises, construction sites and organisations subordinate to them.

The material balances, plans for the allocation of goods and plans of inter-republican deliveries, drawn up by the Gosplan of the U.S.S.R., help to improve the supplying of industry with raw and other materials, fuel and equipment. They are an important means of combating parochial tendencies. At the same time, these plans are used for the proper territorial location of production, with account of the rational exploitation of the natural resources by each republic and each economic geographical area. They also facilitate better planning of goods transportation.

Specifically, to improve the structure of the fuel and power balances and the territorial allocation and consumption of all kinds of fuel and power, planning and statistical agencies prepare fuel and power balances for economic geographical areas every year.

The correct estimation of the requirements in goods for needs of production and construction is a primary task in drafting plans of material supply. Under the new system, estimated norms of expenditure of materials have to be prepared by enterprises themselves jointly with research and designing institutes in the respective branches and central designing offices, taking into account technical progress in the given field. The estimated norms are submitted for approval to the economic council; group norms and the most important single norms (with proposals for their reduction) are submitted for approval to the republican gosplan, and some of them to the Gosplan of the U.S.S.R.

The procedure and dates for preparing material supply plans have been as follows since 1959:

Outline for Drafting Annual Plans of Material Supply for the National Economy of the Soviet Union

Republican gosplans and all-Union ministries and departments prepare and submit separate sections of the plan by the following dates:

By *May 15* they submit to the Gosplan of the U.S.S.R. calculations of the requirements in principal goods, and proposals for the volume of their output.

By *July 15* they submit calculations of the requirements in consumer goods for the market and for non-market channels, and proposals for the delivery of animal products for all-Union needs.

By *August 1* they submit to the Gosplan calculations of the requirements in raw and other materials, fuel, equipment, coordinated deliveries of castings, forgings, stampings and parts and sections of machines and also draft plans of production for the wide nomenclature of goods allocated by the Gosplan of the U.S.S.R.

By *July 15* the Ministry of Foreign Trade of the U.S.S.R.:

a) submits to the Gosplan proposals for the exports and imports of goods next year, for which the Gosplan approves the plan of material supply;

b) informs the republican Councils of Ministers and the all-Union ministries and departments about the exports and imports of goods, for which delivery plans are approved by the republican Councils of Ministers.

By *October 1* the republican gosplans, the all-Union ministries and departments submit to the Gosplan draft plans of

The Gosplan of the U.S.S.R. draws up the plan of material supply in the following dates:

By *May 25* it informs the republican gosplans and all-Union ministries and departments about the approximate allocation of the basic material resources and the approximate volume of production and construction.

By *June 15* it prepares and submits for approval to the Council of Ministers of the U.S.S.R. material balances with plans for the allocation of major goods for Union republics and consumers (on the basis of the calculations of the republican gosplans, the all-Union ministries and departments).

By *September 1* it submits, simultaneously with the trade plan, balances and plans for the allocation of the main food and non-food goods for non-market channels and a draft plan for the accumulation and use of the all-Union stocks of animal products.

By *September 15* it approves the plan of material supply of the national economy, balances and plans for the allocation of output and informs the Union republics and the all-Union ministries and departments about the allocation of goods under the nomenclature of the Gosplan.

By *October 1* it approves the plan of inter-republican deliveries and deliveries of steel and iron castings, forgings, stampings, sections and parts of machines for all-Union needs.

production for the entire nomenclature of the Gosplan.

By November 1 on the basis of the approved allocations, they submit to the Central Inter-Republican Delivery Boards of the Gosplan summary specifications for placing orders and assigning customers to suppliers.

By December 1 the supplying enterprises conclude contracts for the delivery of goods.

By December 15 orders are issued for the delivery of goods in the first six months of next year, and not later than on June 15 in the second half of the year.

By December 1, on the basis of the calculations and draft plans submitted by the republican gosplans, it approves the plan of inter-republican deliveries and deliveries for all-Union needs.

This is how management and planning agencies work concertedly for about six months, preparing the most laborious section of the state plan, the plan of material supply. The smooth operation of all branches of the economy largely depends on the proper and timely elaboration of this plan.

* * *

Following the approval of the control figures, the main job of drafting long-term plans for the widest range of targets is done at industrial enterprises, construction sites, state farms, collective farms, repair-and-service stations, etc. These plans are examined by the economic and technical boards of the economic councils, and they come into force after approval by the economic councils.

The same procedure applies to enterprises under the jurisdiction of all-Union and republican ministries and departments and of local Soviets.

Republican Councils of Ministers, republican economic councils, economic councils of economic administration areas and local Soviets dovetail all the plans of enterprises and construction sites under their jurisdiction and

draw up summary long-term plans for the given economic administration area and also for the region, territory, autonomous republic and Union republic.

Thus, the combination of *national economic long-term planning with planning from below*, beginning with an enterprise, is a basic principle of socialist long-term planning. Observance of this principle enables planning agencies to take every account of the possibilities for expanding production and also properly to co-ordinate the state and local interests.

To combine general state planning with planning from below, the plans of lower units in the economic chain should be summarised and analysed at all higher levels. The preparation of the initial draft plan at each enterprise enables it to take into account the existing ties with other enterprises.

When preparing their plan, enterprises seek the advice of their higher economic organisations (trust, board of an economic council) in order that their drafts should conform to the utmost to the requirements of the national economy and provide for the full utilisation of productive capacity.

The plans of factories, construction sites, collective and state farms are thoroughly analysed at the higher levels of the planning system and the necessary adjustments are made. On the basis of a synthesis of the plans of separate economic units the summary plan of a branch, of the given territory, trust or board is drawn up. Plans of trusts and boards are analysed and synthesised in the economic councils; plans of local industry and construction, public utilities, cultural and medical establishments, in the regional planning commissions; plans of agriculture, in the regional or territorial agricultural boards. Each plan of a separate economic unit is first of all checked from the viewpoint of its conformity to the state interests, to the state tasks.

Similar work is done in the republican gosplans, which summarise the plans of regions, territories, autonomous

republics, economic councils and republican ministries and departments. In the process of preparing the republican plan each Union republic ascertains its demands on other republics, receiving from the centre approximate allocations of raw materials and fuel and other products from the resources of other republics. A republican gosplan substantiates in detail its estimated volume of production and construction, summing up its own resources and what goods the republic should get from other republics. It also determines the quantities of goods it can deliver to other republics.

At the level of a republican gosplan or an economic council, co-ordination of the plan estimates necessitates the preparation of a whole series of balances. The synthesising of plans and the preparation of summary plans in a region or republic and especially in central planning bodies do not consist of a mechanical addition of plans received from below. It is a process of all-round analysis and co-ordination from the standpoint of the state, effected with the aid of a whole system of balances: material, money and labour and the balance of the national economy of the Soviet Union. Thus, the balance method of planning and the method of synthesis of plans are inseparably interconnected.

The national economic plan must solve from the over-all state standpoint such questions as the rate of growth of the social product, the volume and direction of capital investments in branches, proportions in the development of separate branches, the division of labour in the national economy, territorial location of the productive forces, distribution and use of the national income, etc.

The over-all state standpoint should also be applied to the development of science and technology, allocation of basic means of production, price formation, reduction of prices, consolidation of the country's defence power, to the development of foreign economic ties.

Now that republican and local bodies manage directly

all industrial enterprises, construction sites and social and cultural establishments, and draw up plans for the widest range of targets, long-term plans can take every account of the requirements and resources of the economy and the population both on the scale of each republic and of the country as a whole; planning can be more precise, deeper and more flexible, taking into consideration all the natural, economic, cultural and other specific features of each republic, each economic administration area and each territorial administration division.

In choosing the exact specialisation for enterprises, regions, administration areas and republics, it is particularly important to take every account of the *natural conditions*. Each republic, territory or region has districts in which the natural conditions, the mineral resources shape the face of their industry. For example, the Uzbek Union Republic, owing to its natural climatic conditions, specialises chiefly in the growing of cotton and is the main producer of this fibre in the Soviet Union, and, in line with this specialisation, the republic develops such branches of industry as the production of mineral fertilisers, cotton ginning, the cotton textile industry and the manufacture of agricultural and textile machinery. The large volume of silk production in Uzbekistan also brought about the building of a number of silk mills.

In deciding on specialisation in agriculture, account is taken not only of the natural conditions, but also of the proximity of the state farms or collective farms to towns and industrial communities, to railways and waterways and, what is especially important, to factories processing agricultural raw materials. Thus, while Tashkent Region in general specialises in cotton growing, nonetheless state and collective farms near Tashkent, the biggest industrial centre of the republic, concentrate on the production of vegetables, fruit, milk, etc.

Natural conditions shape the economic face of a republic or area and its specialisation. The plans always indicate

the branches which are of importance for the entire Soviet Union, the given republic, or are of purely local significance.

In the industrial production plan consideration for the *national peculiarities and way of life* finds its expression in the assortment of goods which meets with the greatest consumer demand. Thus, in the Central Asian republics of the Soviet Union the assortment of cotton and silk fabrics differs essentially from the assortment of fabrics manufactured for the northern or central regions. At the same time these republics produce many types of goods which are not manufactured at all, for example in the Russian Federation. The plan of trade in each republic is shaped not only by purely economic considerations, but also by the specific features of the people's way of life.

Long-term planning thus gives every consideration to the natural and economic conditions, national peculiarities and specific features of the way of life in each economic administration area, autonomous republic or Union republic.

From its very nature, socialist planning, based as it is on plans drawn up locally, abhors a stereotyped, undifferentiated approach to economic developments. The combination of centralised planning and planning from below stems from the very essence of the Soviet system, from the democratic centralism of state administration.

3. System of Targets in the Control Figures and Long-Term Plans

Economic development plans of the Soviet Union consist of a system of targets which includes both quantitative and qualitative assignments. The targets reflect various sides of the process of extended socialist reproduction, the development of science, culture and the steady rise of the people's living standards.

The targets in the national economic plan are based on the principle that they should be comparable with the figures and indices of the system of accounting and statistics, and could be summarised and synthesised for branches and republics.

The targets reflect the main aims of the plan, its economic and political tasks. The system of targets must mirror the existing ties and interdependence between various branches and spheres of the national economy. The specific features of the economy of the Union republics, economic areas and enterprises, as well as of the forms of socialist property, are expressed through the targets of the plan.

The economic development plans for the Union republics, economic administration areas, ministries, departments and also for enterprises have the same sections as the general state plan. But the number of targets and degree of detail in these plans differ.

Uniformity in preparing all-Union, republican, branch and local plans is ensured by a common methodology in drafting plans and also by the single standard targets and lay-outs elaborated by the Gosplan of the U.S.S.R.

The system of targets in state plans has a pattern which conforms to the territorial principle of organisation of the national economy and its management (by Union republics). Account is taken of the existing chain of command of enterprises and separate sectors of the national economy and also of the territorial division of the country into republics, territories, regions and economic administration areas. The assignments in the state plan are worked out both for the entire country, for branches and departments (for the remaining all-Union departments) and for territories.

The *branch section* of the targets in the plan reflects the grouping of assignments according to branches of the economy (the metallurgical, fuel and engineering industries, agriculture, transport, etc.). The branch targets cover the given branch of production in its entirety, irrespective of its location in the territory of different republics and

of the territorial subordination of its various enterprises. The branch structure of the plan helps to reveal the ties of, and proportions in, social production. It is a necessary prerequisite for the co-ordination, through balances, of separate branches both on the scale of the entire country and on the scale of republics and economic areas.

Some targets in the state plan, approved for definite branches, are addressed to the respective bodies. For example, the transport assignments are addressed to the Ministry of Railways, Ministry of Merchant Marine, etc.

The *territorial section* of the targets reflects above all the grouping of assignments according to which republican Councils of Ministers bear responsibility for the fulfilment of the corresponding part of the national economic plan. The territorial section of the plan has a much more complete and wider range of targets than the branch section.

The territorial section of the plan also includes the distribution of assignments according to economic administration areas. This section of the plan is worked out by the republican gosplans for each economic council and approved by the republican Councils of Ministers. In the long-term plan of the U.S.S.R. the territorial section coincides with the administrative boundaries of the Union republics, except for some targets, which are also fixed for territories and regions, for example the targets for farm produce purchases and the lists of the biggest construction projects. Moreover, in drawing up the economic plan for the Soviet Union as a whole some targets are also calculated for large economic geographical areas, for example the Urals, West Siberia, the Far East, Central Asia, etc. These calculations are needed for ensuring in the plan the integrated development of the country's main economic areas.

The system of targets in the territorial aspect must conform to the requirements of the all-round economic and cultural advance of republics, territories and regions, the rational location of production and the material supply needed for their economy.

Targets of national economic plans are given in *physical* terms and in *value* terms. The first kind (type of product, assortment, etc.) is fixed in definite physical units of measurement, while value targets (gross and saleable output, accumulations, the national income and capital investments) are given in money units (rubles).

Targets are also divided into *quantitative* and *qualitative*. Quantitative targets are used to describe the volume of the assignments in production, construction, etc., or the number of planned enterprises, trading establishments, schools, clubs, etc. Qualitative targets reflect the quality of output or constitute synthetic, economic indices of performance (growth of labour productivity, reduction of production costs, efficient use of equipment and material resources, profitability of enterprises, etc.).

The targets are grouped in separate sections in accordance with a preconceived lay-out.

The *summary section* contains the main synthetic indices reflecting the most important assignments for branches and republics. Next come the *sections of plans for the main branches and spheres of the national economy*, in which targets are approved both for the Soviet Union as a whole and for the Union republics (industry, agriculture, transport and communications, capital construction, geological prospecting, production and circulation costs, labour and training of personnel, culture and health services, foreign trade, finances, summary plan and state budget, and material supply plan).

The scientifically elaborated system of targets of the general state plan secures the application of a single centralised policy in developing the economy of the Soviet Union, ensures the necessary correlation in the growth of the key industries, proportionality in the development of the entire national economy, rational location of the productive forces and ties between the Union republics and between the economic administration areas.

The system of targets and indices is so arranged as to provide adequate technical and economic calculations for supporting the draft plans. Part of the indices are of an auxiliary nature; they are used merely for calculation purposes and are not included in the approved plans.

The Communist Party and the Soviet Government are concerned with the further improvement of national economic planning to meet the ever rising requirements of socialist society. Cognizant of the fact that the state plan is a cardinal instrument of the socialist state in building communism, they are paying special attention to improving the system of plan targets.

As the sphere of operation of the economic laws of socialism extends and knowledge of these laws grows, the economic and organisational functions of the Soviet state develop and the importance of the planning principle in the economy increases. This makes it necessary to develop and improve the methods and organisation of national economic planning, including the system of plan targets, inasmuch as the latter plays a tremendous part in determining the content of the plans.

In recent years, the system of targets of the national economic plan has undergone serious changes. Thus, the national economic plan of the Soviet Union for 1957, including the material supply plan, had over 4,200 targets, of which about 1,700 were for industrial items of all-Union importance; the plan for 1958 counted about 2,450 targets, including 1,042 targets for important industrial items. At present most of the targets, unless they define the direction of economic and cultural development for the Soviet Union as a whole and the main ties between republics, are approved by the republican Councils of Ministers and the economic councils.

The long-term national economic plans contain a small number of principal targets which determine the direction of the country's economic development. But in elaborating them a wide range of all kinds of synthetic indices

of an auxiliary nature are utilised for calculation purposes.

The following main targets of economic and cultural development of the Soviet Union are approved in the *control figures*:

- rate of growth of industrial production for the Soviet Union as a whole, singling out Group A (means of production) and Group B (articles of consumption) for branches and Union republics; the output of the most important industrial goods in physical terms; assignments for the organisation of the manufacture of new products and the development of new categories of production; assignments for over-all mechanisation and automation and also for specialisation and co-ordination of production;

- the development of agriculture, gross grain harvests, crop yields, volume of purchases of foodstuffs and raw materials, mechanisation and electrification of agriculture; the development of state farms and forestry;

- the development of all modes of transport and communications, the building and commissioning of railways and their electrification;

- the volume of capital investments and construction work for republics, singling out 14 major branches of the economy; investments in industrial construction, the building of houses, public services, and of educational, cultural and medical institutions;

- the commissioning of new productive capacity according to major types of output, with enumeration of the biggest projects to be built; commissioning of housing in the cities and the number of houses in rural localities made available for occupancy;

- the direction of location of the productive forces according to large economic areas; the volume of geological prospecting work;

- growth of labour productivity per worker in industry and construction, the total number of factory, office and professional workers, the total wage fund, the inter-repub-

lican movement of labour, vocational training and the employment of young people, reduction of the costs of production, transportation and construction;

the advance of living standards: growth of the national income, rise of real incomes of factory, office and professional workers and collective farmers; volume of state and co-operative trade; public health, social security, public services, development of education, science, culture, and the communist education of the people;

the main directions of the economic development of the Union republics.

The control figures for 1959-65 contain less than one-third of the targets in the economic development plan of the Soviet Union for 1958.

The Government has established the range of targets for long-term national economic plans which are to be worked out in the republican gosplans and the Gosplan of the U.S.S.R. This range of targets is somewhat wider than in the control figures approved by the Twenty-First Congress of the C.P.S.U., inasmuch as it contains a division of the assignments by years of the seven-year period, and the targets are broken down for republics, ministries and departments. The national economic targets underlying long-term and annual plans of economic councils and enterprises are as follows:

Industrial output—gross and saleable output, and the rate of its growth as a whole and for the Union republics; targets for branches with a subdivision into Groups A and B; production of major goods in physical terms; assignments for the organisation of the manufacture of new goods and the development of new categories of production; main assignments for the introduction of new technology—over-all mechanisation, automation of production processes, development of new machines, equipment, instruments and materials, and also assignments for research and designing; summary plan of specialisation and co-ordination of production for branches, Union republics and

economic administration areas and also the plan of geological prospecting work.

Agriculture—gross harvest of grain, industrial and oil-bearing crops, potatoes and other vegetables, assignments for crop yields, the volume of purchases of foodstuffs and raw materials (grain, industrial crops, animal products, etc.), balance calculations of gross and state resources of grain and its processed products (flour, groats), potatoes, other vegetables and animal products, specifying deliveries to the all-Union fund; main targets for the mechanisation and electrification of agriculture (commissioning of rural electric stations, the number of collective farms to be electrified); irrigation, drainage and the watering of pastures; assignments for the development of forestry and the state farms; assignments for the delivery (or sale) to the collective and state farms of machinery, equipment, mineral fertilisers, etc.; growth of labour productivity and increase in the incomes of agriculture.

Transport and communications—targets for the development of all modes of transport; freight carriage by rail, water and road transport, volume of air freight and passenger traffic, volume of carriage by oil and other pipelines; assignments for the building of roads, ports, airfields; volume of work done by the communication services (in million rubles); commissioning of telephone and telegraph trunk lines.

Capital construction and the construction industry—total volume of state capital investments and construction work, specifying the volume of investments in industrial construction, housing and public works, and also capital investments for major branches of the national economy; lists of the major construction projects and also lists of construction projects about to be started with an estimated cost of over 2.5 million rubles (approved by the republican Councils of Ministers upon co-ordination with the Gosplan of the U.S.S.R.); the commissioning of productive capacity for the principal kinds of goods and the commis-

sioning of housing and the main educational, cultural, health and social security projects (approved by the republican Councils of Ministers upon co-ordination with the Gosplan of the U.S.S.R.); programme of contract jobs and assignments for the development of the construction industry; direction of location of the productive forces in large economic geographical areas.

Geological prospecting work—volume of prospecting work for branches; increase in the reserves of major minerals, volume of hydrogeological and engineering geological work, geological surveys and topographical-geodesic and cartographic work.

Labour and the training of personnel—the growth of labour productivity per worker in industry and construction in terms of money (in physical terms—in coal mining and timber felling), plan of vocational training and employment of young people; number of factory, office and professional workers, wage fund, inter-republican movement of labour.

Cost of production and circulation—targets of the cost of industrial and agricultural production (state farms), cost of transport, building work and geological prospecting; outlays per ruble of saleable product in industry.

Material supply—balances of industrial goods and agricultural raw materials, plans for distribution of output, plans of inter-republican deliveries and deliveries for all-Union needs.

Trade—volume of state and co-operative retail trade, including public catering establishments; the quantities of major foodstuffs and manufactured goods allocated for the market.

Culture and health services—targets for the training of specialists in institutions of higher learning (enrolment and graduation from daytime, evening and correspondence establishments), number of pupils in elementary, eight-

year and secondary schools, including the development of boarding-schools, the number of children accommodated in kindergartens, number of hospital beds, number of places in nurseries maintained at the expense of the state budget; targets for social services.

In addition to these targets republican gosplans work out and present to the Gosplan of the U.S.S.R. indices needed to justify their proposals.

Calculations of the volume of freight carriage are presented by republican gosplans simultaneously to the Ministry of Railways and the Ministry of Merchant Marine. Draft plans for the development of the chemical and engineering industries and geological prospecting work are submitted by the Union republics to the respective state committees and the Ministry of Geological Survey and Conservation of Mineral Resources of the U.S.S.R.

The system of targets in the control figures and long-term plans of a Union republic includes the targets of the general state plan, but is supplemented by assignments reflecting the specific features of the republic's economy and the structure of its management. A wide range of targets is given in the republican plan for public utilities, education and health services, inasmuch as their development is planned in the republic. There are also targets for the economy subordinate to local Soviets.

The targets of plans of economic administration areas differ from the plans of republics in that they specify in still greater detail the sections of industry and construction and contain many technical and economic assignments reflecting the specific features of the area's economy, the development of technology at enterprises and construction sites and also production ties within the area and with other areas. Targets of co-ordination of production with other areas hold a big place in the plans of an economic administration area.

4. Co-ordination of Long-Term Planning in the Countries of the World Socialist System

The socialist system occupies a huge territory of over 35 million sq. km. (26 per cent of the world's land surface) with exceedingly rich natural resources. It is inhabited by up to 1,000 million people (more than one-third of mankind) and possesses a powerful economic potential. In 1959, it produced more than one-third of the world industrial production, 93 million tons of steel, about 77 million tons of pig iron, 1,050 million tons of coal, 417,000 million kwh of electric power. It accounted for half of the world production of coal, over 35 per cent of the pig iron and 30 per cent of the steel.

The law of planned development operates in the world socialist economic system. Hence there appears ever more strongly the tendency inherent in the socialist system to eliminate the uneven development of separate countries through the exceptionally high rate of industrial growth in countries which formerly were among the most backward. This can be seen from statistics on the growth rate of industrial production.

Thus, the Chinese People's Republic increased industrial production approximately 13-fold between 1949 and 1959. As compared with 1950, industrial output in 1959 rose as follows: Poland, over 3 times; Bulgaria, about 3.6 times; Albania, 5.4 times; Rumania, nearly 3 times; Hungary, over 2.5 times; the Korean People's Democratic Republic, 6.1 times.

Among the major factors facilitating the high rates of economic growth in the socialist countries are above all the socialist ownership of the means of production, the moral and political unity of the people, the growing participation of the masses in economic development and also co-operation among the socialist countries.

In the process of drafting long-term plans the countries of the world socialist system mutually co-ordinate the tar-

gets of their plans. "The co-ordination of national economic plans is the form in which the production efforts of the socialist countries are being pooled at this stage,"* N. S. Khrushchov pointed out in the report to the Twenty-First Congress of the C.P.S.U.

Co-ordination of the economic development of the socialist countries is done with the object of utilising most rationally their economic and natural resources. It represents a new form of international economic co-operation and division of labour inherent only in socialist states. This form of economic relationship between the socialist countries is based on the principles of equality of the participants, socialist mutual assistance, mutual advantage and respect for national interests.

The socialist countries possess huge potentialities for further economic growth. They have 54 per cent of the world reserves of iron ore, about 62 per cent of the coal reserves (data of 1957), over 20 per cent of the oil resources, approximately 70 per cent of the world reserves of potash salts, etc.

The territories of the socialist countries have diverse and favourable soil and climatic conditions, which makes possible a wide development of agriculture. The socialist countries account for about 40 per cent of the world grain harvest and about 33 per cent of the cotton crop. Thus, the world socialist system has practically all the natural resources for satisfying the economic requirements of each socialist country.

Economists estimate that by the end of 1965 the socialist countries will produce more than half of the world industrial output.

The countries belonging to the world socialist system are bound by community of basic interests; all of them are marching toward one goal, a communist society. That is

* N. S. Khrushchov, *Control Figures for the Economic Development of the U.S.S.R. for 1959-1965*, Moscow 1960, p. 82.

why a new type of international relations has arisen among them, relations of comradely co-operation and mutual assistance. Political co-operation firmly maintains their national independence and creates the conditions for the carrying out of the plans of peaceful socialist construction.

Economic co-operation enables each country to utilise most rationally its natural resources and to co-ordinate and pool economic activities in the common interests, making every use of the advantages of the world socialist system.

Cultural co-operation mutually enriches the spiritual life of the peoples in each country, promotes the rapid and all-round progress of the national cultures and of science and technology.

Economic and cultural co-operation between socialist countries is becoming increasingly many-sided and is effected in the following main forms: specialisation and co-ordination of production; equal and mutually advantageous trade agreements, long-term credits to the less developed countries on easy terms; delivery of complete sets of equipment for industrial and other enterprises by the more developed countries to the less developed; technical assistance in designing, building and launching of enterprises and in training of personnel; reciprocal exchange of experience; scientific and technical consultation and joint study of scientific and technical problems; drawing up of recommendations in connection with the drafting of long-term plans.

Thoroughgoing specialisation and co-ordination of separate branches within the socialist camp represent the highest forms of the international division of labour at the present stage.

Division of labour in the world socialist system—broad specialisation and co-ordination—eliminates unnecessary duplication in the production of goods, makes it possible harmoniously to combine the general interests of the socialist commonwealth with the specific interests of each sover-

eign country, to utilise the advantages of the new social system and thereby create in all the socialist states the most favourable conditions for the building of socialism and communism.

Proper co-ordination and specialisation within the socialist camp ensure a saving of material resources and a rise in the productivity of social labour, ensure the most rational use of natural resources and the economic conditions for accelerating the rates of extended socialist reproduction.

In contrast to the capitalist division of labour which arises spontaneously, the socialist planned division of labour is based on a scientific analysis of the economic potentialities of each country and the advisability of developing some or other branches of the economy in the interests of the entire world socialist system. It rests on the principle of reciprocal consent of the socialist states to develop one or another industry in conformity with the demands of the law of planned and proportionate economic development.

With the help of co-ordination of, and co-operation in, production, proportions in the national economy of each socialist country are dovetailed to a definite extent with the proportions of extended socialist reproduction in the entire world socialist system. In so doing, account is taken of the place which a country holds in the international socialist division of labour.

Co-ordination of, and co-operation in, production are effected without drawing up a single plan for the entire socialist camp. Each country draws up its own plan independently. Rational proportions of the international socialist division of labour are established through the co-ordination of draft long-term national economic plans. This confirms the brilliant foresight of Lenin who in 1920, in the theses on the national and colonial questions at the Second Congress of the Communist International, said that it was necessary to bear in mind the "tendency towards the creation of a single world economy, regulated by the prole-

tariat of all nations as an integral whole and according to a common plan. This tendency is already quite clearly revealed under capitalism and should certainly be further developed and fully consummated under socialism.”*

Co-ordination of the economic development of the socialist countries is done by the Economic Mutual Assistance Council (EMAC), an international organisation set up in 1949, which functions on the principles of the full equality of its members (Albania, Bulgaria, Hungary, the German Democratic Republic, Poland, Rumania, Czechoslovakia and the Soviet Union). Representatives of China, the Mongolian People's Republic and the Democratic Republic of Viet-Nam attend EMAC meetings as observers.

As socialism gains in size and strength in the People's Democracies, the economic ties between the socialist countries and the methods of regulating the proportions are becoming ever more diversified. Prior to 1948, the method of indirect regulation of proportions prevailed; it was based on bilateral long-term treaties and free Soviet aid. Subsequently, as the socialist sector grew in all countries, there arose the methods of the planned shaping and ensuring of rational proportions in economic development by means of specialisation and co-ordination of production in separate branches of various countries.

In developing its economy, each country proceeds from its own resources and internal requirements and the needs of the world socialist market. The co-ordination of production programmes by socialist countries leads to a situation when countries with a lower level of the productive forces develop first of all the branches and categories of production for which they have the most favourable natural and economic conditions. Countries with a higher level of the productive forces specialise in the production of more complicated and labour-consuming goods.

* V. I. Lenin, *The National-Liberation Movement in the East*, Moscow 1957, p. 252.

Important steps to co-ordinate production through long-term national economic plans were taken at EMAC sessions between 1955 and 1957. Measures to eliminate the deficiencies in the production of raw materials and fuel and to develop the metallurgical industry and agriculture were drafted jointly in 1955. In the engineering industry the production of certain types of machines was restricted and the programme for manufacturing certain models of machines, including lorries and motorcars, tractors, combines and other farm machines, was allocated among various countries. Parallelism in organising the manufacture of the same or analogous goods was eliminated by agreement.

In 1956, new recommendations were adopted on co-ordinating the production of fuel and ores, pig iron, steel, rolled non-ferrous metals, electric power and chemicals, and on the development of the engineering industry and agriculture. Measures for the joint provision of equipment and raw materials to major construction projects were also worked out.

In 1957, an agreement was drawn up and adopted on co-ordinating the work of drafting long-term (20 years) national economic development plans. Organisational and methodological questions pertaining to the elaboration of long-term plans for the key branches of the economy in EMAC countries were discussed at a special meeting of leaders of state planning agencies held at the end of 1957. Standing commissions for various branches have been set up by EMAC and they pay special attention to co-ordinating research and designing work.

The meeting of representatives of Communist and Workers' parties from EMAC member countries, held in 1958, drew up and adopted recommendations for the further development of economic co-operation, for inter-state co-ordination and specialisation of production and also for the drafting of long-term national economic plans.

In May 1959, the Eleventh Session of EMAC examined the economic ties of the socialist countries, following

from long-term national economic plans or contemplated growth of key industries for the period up to 1965. Important measures were elaborated at that session for the greater specialisation and co-ordination of production, standardisation of industrial enterprises and unification of equipment in the main industries, construction and agriculture. Specifically, recommendations were drawn up for the development of the raw material resources of the iron and steel industry, the priority expansion of the mining of coking coals in the European People's Democracies, especially the grades in short supply. The increased extraction of iron ore, envisaged in the Seven-Year Plan of the Soviet Union, will make it possible to cover home requirements and almost to double deliveries of iron ore to the European People's Democracies.

The plan to combine the power systems of the European socialist countries was a cardinal measure approved by EMAC in 1959. Between 1959 and 1964, it is planned to build 220-kv electric transmission lines to connect the power systems of the German Democratic Republic, Poland, Czechoslovakia and Hungary; of Rumania and Czechoslovakia; of Hungary and the Western Ukraine; of Poland and the Kaliningrad power system of the Soviet Union. This will be the initial stage in linking the power systems of the European People's Democracies with the western regions of the Soviet Union. This will make it possible to satisfy in the most economical way the growing electricity requirements of countries having a power shortage and also to raise the reliability of the power supply by using the reserve capacities of the connected systems.

Important recommendations were worked out for greater specialisation and co-ordination of the manufacture of mining and rolling-mill equipment, machine-tools for the making of bearings, oil-extracting equipment, loading machines and other equipment. The following specialisation in the manufacture of certain types of equipment by countries is envisaged: mills for rolling light sections will be

produced chiefly in the German Democratic Republic and Poland; mills for rolling heavy sections, mainly in the Soviet Union and Czechoslovakia; wire-drawing mills, mainly in Hungary and the German Democratic Republic; the manufacture of drilling installations and equipment for oil refining and the oil-chemical industry will be developed in Rumania and the Soviet Union. The manufacture of special semi-automatic and automatic machine-tools and machines with remote-control and programming systems for making bearings is allocated as follows: the Soviet Union, 55 models; German Democratic Republic, 40 models; Poland, 12 models, and Czechoslovakia, 10 models. These measures for the planned co-ordination and specialisation of production will make it possible to reduce considerably the outlays on designing and the organisation of manufacture, increase the scale of production and improve the quality of the machinery and equipment and, what is most important, will enable these countries to satisfy most fully their requirements in these machines.

Thus, the socialist states, as they enter the decisive stage of the economic competition between socialism and capitalism, pool their efforts by choosing the correct direction of development of the various branches in each country.

Joint building of major projects and the delivery of sets of equipment for entire plants are an important form of planned economic co-operation.

The economic co-operation of most socialist countries is now based on long-term agreements covering the period up to 1965. For example, in 1958, the Soviet Union concluded an agreement with the Polish People's Republic on rendering it technical assistance in developing important branches of the economy, specifically in surveying new oil and gas resources and preparing them for exploitation, in building an oil refinery, enlarging the Lenin Iron and Steel Works and also in expanding the copper-mining industry.

The socialist countries are helping each other in design-

ing and survey work, in the preparation and exchange of technical specifications for construction projects, are rendering each other aid in the training of building workers and of personnel to operate the new plants.

Planned co-ordination of goods exports and imports makes it possible rationally to organise trade between countries in the world socialist system.

Co-operation in science is arranged through constant contact among research institutions, the reciprocal exchange of plans of scientific work, exchange of information and joint expert analysis of the results of researches.

The Soviet Union is rendering great assistance to the other socialist countries in solving scientific and technical problems, especially in applying the latest achievements of science and technology. In 1956, for example, the socialist countries organised the Joint Nuclear Research Institute with headquarters in the Soviet Union. It enables scientists to pool efforts in studying nuclear physics and the peaceful uses of atomic energy. The U.S.S.R. is providing atomic reactors and cyclotrons to Poland, Czechoslovakia, Rumania, Hungary, the German Democratic Republic and China. The Soviet Union is helping to build a 100,000-kw. atomic electric station in the German Democratic Republic and will also assist in developing an atomic station in Czechoslovakia. This is of great importance for these countries which have inadequate resources of water power and mineral fuel.

The socialist planned economy is developing at a high rate in all countries, overtaking the advanced capitalist countries, demonstrating its superiority over the capitalist system. The progressive role of planning in the economic affairs of the socialist countries is growing steadily.

The development and strengthening of the forms of economic, scientific and technical co-operation among the countries of the world socialist system indicate progress of socialist planning at the present stage.

Chapter III

PROBLEMS OF THE METHODOLOGY OF DRAWING UP PLANS FOR INDUSTRY

1. The Role of Industry in the Economic Development of the Soviet Union; Production Ties of Industry

The national economy of the Soviet Union represents a single entity of interdependent, constantly developing branches of social labour. The main part in the country's economy is played by the branches of material production: industry, agriculture, transport and construction. At the same time the structure of the national economy includes a number of branches of the non-productive sphere, such as trade, the credit system, the educational system, the public health services, etc. In conformity with this, the national economic plan, as pointed out in Chapter II, consists of sections which cover the various aspects of production and other spheres of society's activities.

As the principal branch in the sphere of material production industry plays a leading and transforming part in building up the material and technical basis of socialism and communism. That is why the section "industry" holds the central place in the national economic plan. Industry is the point of departure for working out all the other targets of the national economic plan.

The production programme of industry is directly bound up with the other sections of the national economic plan, with the targets of capital construction, material supply,

trade and social and cultural measures, for which industry provides the material means.

Industry is not only the biggest branch of material production, but also the basis for the development of all branches of the economy and culture. The leading branch of industry, heavy industry, comprises the foundation of the socialist economy, the technical basis for the continuous and intensive growth of the productive forces. Industry provides up-to-date machinery, raw materials and fuel to all branches of the national economy and, consequently, creates the conditions for the rise of labour productivity and the steady advance of the people's living standard.

Socialist industry is the leading element in the development of the productive forces, it serves as the economic basis for the social and economic changes in the country, for the further improvement of production relations.

"The Communist Party of the Soviet Union attaches paramount importance to the development of industry, particularly heavy industry, which is the foundation of foundations of socialist economy and of the might of the country. Moreover, it is the decisive factor in the development of the productive forces and in the growth of labour productivity in all branches of the national economy,"* it is pointed out in the control figures for national economic development in 1959-65.

At the present stage, the high rates of growth, above all in heavy industry, are of decisive importance in creating the material and technical basis of communism within a historically short span of time.

The development of socialist industry at a fast pace is of international significance because it raises the economic potential of the world socialist system and reinforces the basis for rendering aid to underdeveloped countries.

The role of industry in economic and social development

* *Decisions of the Twenty-First (Extraordinary) Congress of the Communist Party of the Soviet Union, Moscow 1959, p. 68.*

follows from the purposes for which industrial output is used.

From the standpoint of the role of its output in the reproduction process industry is divided into two main economic groups: production of the means of production (Group A) and production of articles of consumption (Group B). Depending on the goods it produces and the purpose which they are destined to satisfy, an industry or enterprise is classed in one or another group.

Group A, in its turn, is subdivided into the production of the instruments of labour and objects of labour.

The division of industrial output into means of production and articles of consumption is of great importance in determining in plans the main proportions in the development of the national economy and it is widely utilised in planning, accounting and statistics in the entire system of planning and statistical agencies. The listing of industrial output in Group A and Group B is done in conformity with the classification of production established by planning and statistical agencies. This classification is based on the main purpose for which the output of the various branches is designated.

Socialist industry represents a system of interconnected branches of production which arrange their relations on the socialist principle of management. Soviet industry comprises about 125 branches and over 500 separate production categories characterised by similar technology and by a homogeneous product. As technology develops, as production is technically reconstructed and industry expands the production of saleable output, the social division of labour develops, new branches of production arise and, consequently, the ties among branches are extended and become stronger. The rise and rapid development of new branches of industry is facilitated by the introduction of new technology and the drawing into production of the country's exceedingly rich mineral and other natural resources.

Production ties among various branches of industry and of industry with the other branches of the economy are in a constant state of flux and they change in line with the growth of the national economy. A thoroughgoing study of these ties is the indispensable condition for fixing correct proportions in the national economic plan, for establishing the most rational production ties both between branches and between republics.

As the core of heavy industry, engineering is connected with all branches of industry and the national economy: it reproduces the instruments of labour—equipment, machines, tools, precision instruments, etc. These ties grow as the scale of construction, over-all mechanisation and automation and the replacement of obsolete machines with new, more efficient machines are extended. At the same time the engineering industry is the biggest consumer of metal. It consumes nearly half of all the metal that goes for production and maintenance needs.

The coal, oil, gas, timber and building materials industries and other branches of heavy industry receive from the engineering industry mining equipment, processing machines, transmitting and power equipment. These branches supply the engineering industry with fuel, timber, oil products and other materials.

The light, food and other industries which produce articles of consumption are big consumers of equipment and machines and, in their turn, supply many technical materials to the engineering industry.

The production ties between the engineering and construction industries are determined by the use of much building machinery, equipment and fabricated metal structures.

Production ties between separate branches within the engineering industry are constantly growing in scale and complexity owing to the extension of specialisation and co-ordination of production at engineering plants and also to the development of new categories of production and goods.

The metallurgical industry is of exceptional importance to a country's economy: it supplies metal for industries producing means of production and articles of consumption and also for capital construction. At the same time this industry is the biggest consumer of the output of other industries producing raw materials, fuel and power. Metallurgical works consume over 20 per cent of all the electric power generated in the Soviet Union.

The coal industry maintains extensive ties with all the branches of the economy and especially with the metallurgical industry, electric power stations and the railways. The metallurgical industry consumes more than 24 per cent of the coal produced, electric power stations, 20 per cent, and the railways, about 30 per cent.

The chemical industry is playing an ever greater part in the national economy. With the help of chemical processes, many raw materials are comprehensively utilised, the latest types of raw materials are produced and the technology of production is improved in many branches.

Industry has exceptionally wide ties with agriculture. Large quantities of industrial goods are supplied to agriculture: tractors, combines and other farm machines, motor vehicles, mineral fertilisers, oil products, building materials and electric power. Suffice it to say that agriculture gets almost all the tractors, all the combines and other farm machines and 30 per cent of all the lorries produced in the Soviet Union and over 34 per cent of all the light oil products used for production purposes in the U.S.S.R. In its turn, agriculture provides the industries producing consumer goods and food with raw materials (grain, cotton, flax, sugar beet, sunflower seed, tobacco, tea leaf, hides and skins, wool, etc.).

Industry plays a big part in the operation of all modes of transport. It supplies the transport system with rolling stock, rails, sleepers, fuel and electric power, and also with communication and signalling equipment. The development of industry is the principal determinant of the vol-

ume of traffic in all modes of transport, since industrial freight makes up the bulk of all transported goods, while the growth of transport facilities, in its turn, is an indispensable condition for the development of all industry.

The growth of industry determines in large measure the distribution of labour resources in the country, the scale of training skilled workers and specialists, the development of social and cultural establishments. The growth of socialist industry in the Soviet Union ensures the steady advance of the social wealth, the material and cultural progress of the country.

Industrialisation is accompanied by an increase in the size of the working class, in the numbers of technicians, engineers and scientists, by an advance of their technical knowledge and culture. As a result of the development of industry, employment of the population in the sphere of material production is constantly growing. In 1960, over 22 million people were employed in Soviet industry. About 27.5 per cent of the population engaged in the national economy works in industry and construction.

In drawing up plans and controlling their fulfilment, planning agencies analyse the production ties of industry not only by branches on an all-Union scale, but also on a republican scale. The industrial output of each republic plays a definite part in the production of the Soviet Union, which determines its place in the national economy.

The largest place in Soviet industry is held by the Russian Federation: it accounts for two-thirds of the entire industrial output of the U.S.S.R. and plays the decisive part in the production of many items. In 1959, the Russian Federation contributed 55-56 per cent of the country's steel and rolled stock, 58 per cent of the coal, nearly 80 per cent of the oil, 67 per cent of the electric power, 65 per cent of the cement, 91 per cent of the timber, 87 per cent of the cotton fabrics, 80-84 per cent of the silk, woollen and linen fabrics, and 73 per cent of the fish catch. The Russian Fed-

eration accounted for over 55 per cent of the grain, 64 per cent of the flax, 58 per cent of the potatoes, 55 per cent of the meat, 56 per cent of the milk and 51 per cent of the butter produced in the Soviet Union.

This republic is not only the main producer, but also the biggest consumer of industrial goods.

Other Union republics are also key suppliers of some industrial items. The Ukrainian Republic, for example, contributes 57 per cent of the country's iron ore, 33 per cent of the coal, 52 per cent of the pig iron, 40-41 per cent of the steel and rolled stock, 51 per cent of the metallurgical equipment, 49 per cent of the railway goods waggon, 77 per cent of the diesel locomotives, 30 per cent of the butter and two-thirds of the sugar. The Kazakh Republic is an important producer of copper, lead and zinc; the Byelorussian Republic, of peat, linen fabrics, tractor-cultivators, motor vehicles and other machines. The Uzbek Republic accounts for 67 per cent of the raw cotton and 50 per cent of the silk cocoons; the Georgian Republic is the main producer of manganese ore and tea; the Azerbaijan Republic supplies large quantities of oil and gas; the Moldavian Republic is the main producer of wine; the Latvian Republic, of passenger railway carriages and electric tramway motors; the Kirghiz Republic, of mercury; the Estonian Republic, of shales; the Armenian Republic, of mobile electric stations, generators and other machines.

On the basis of socialist industrialisation all the Union republics have scored great successes in developing industry. In a brief historical period all the Union republics have built up a highly advanced industry. The fixed assets of industry and construction in the Soviet Union amounted to 85,400 million rubles at the end of 1959; total industrial output in 1959 was 40 times greater than in 1913.

Socialist industry has reached a level enabling the Soviet Union to create all the conditions for undertaking the full-scale building of communism, of its material and techni-

cal basis. This will make it possible to accomplish in a historically brief period the main economic task of the U.S.S.R.—to overtake and surpass the most developed capitalist countries in production per head of population.

2. Basic Principles of Planning the Development of Industry

The plan of industrial production is drawn up with the object of determining the optimal scale, the necessary structure and assortment of the output of means of production and articles of consumption. This is necessary for ensuring high rates of extended socialist reproduction on the basis of priority growth of heavy industry and continuous technical progress in the interest of satisfying most fully the rising material and cultural requirements of society. The production plan must secure the proportionate development of the various branches of industry and the entire national economy in conformity with the economic and political tasks of the period covered by the plan.

One of the main tasks of planning industrial production is properly to locate industry in the Union republics and economic administration areas, taking into consideration the division of labour arising between them on the basis of production specialisation.

To accomplish these cardinal tasks, planning agencies, in working out the targets of the plan, must ensure the continuous growth of output chiefly through expansion and better use of productive capacity at operating enterprises. Concretely the increase in output is achieved by raising the technical level of production by means of mechanisation, automation, electrification, the use of chemical processes, improvement of the technology of production, modernisation and replacement of obsolete equipment, and also by means of accelerating the mastery of capacity at new enterprises and better organisation of pro-

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duction, the development of specialisation, co-ordination and integration of production.

Planning agencies must set in the plans the maximum possible growth rates for industries which produce raw materials and thereby satisfy more fully the requirements in metal, chemicals, fuel and gas and other primary raw materials; they must also fix adequate growth rates in the manufacturing industries, specifically those producing consumer goods.

It is the task of planning agencies to promote to the utmost the manufacture of new highly efficient machinery, equipment and precision instruments, improvement of the assortment and quality of goods in conformity with the needs of the national economy.

The law of planned, proportionate development requires that the plan of industrial output be thoroughly co-ordinated both within industry itself and also with the plans of the other branches and all the sections of the national economic plan. In dovetailing all the targets of the national economic plan, above all the targets for the development of heavy industry branches which produce raw materials, the rates and proportions are established for each branch of industry and, on this basis, problems of proportionality in the development of the entire national economy are decided.

The production programme is substantiated by technical and economic calculations, which take into consideration the latest achievements of science and technology, the most rational and efficient use of materials, labour and financial resources; account is taken of the replacement of expensive materials and fuels by cheaper ones, of natural materials in short supply by artificial, synthetic materials of equal quality.

In drawing up the production plan, planning agencies envisage the accumulation of permanent state reserves of raw and other materials, fuel, equipment, etc., including current reserves not allocated in the plan.

Planning agencies seek to bring to light and take full cognizance of internal reserves at operating enterprises and, on the basis of a study of the best performance, to set such assignments in the plan as would rally the efforts of the workers, technicians and engineers to advance production continuously.

In working out a plan of industrial output, planning agencies proceed from the need to ensure the further development and improvement of specialisation and co-ordination of production between enterprises, improvement of co-ordinated deliveries in economic areas, Union republics and the country as a whole, guiding themselves above all by the general interests of the state.

Special attention is paid to the proper location of new industrial enterprises and units. Planning agencies are guided by the Leninist principles of locating the productive forces, that is, of bringing industry closer to the sources of raw materials, fuel, electric power and consumption, are guided by the existing specialisation of areas. They particularly take into account the integrated development of economic geographical areas, especially in the eastern regions of the Russian Federation (West and East Siberia, the Far East) which possess huge natural resources.

In drawing up a production programme, planning agencies thoroughly work out targets for the operation of industry designed to save social labour, in the first place targets for higher labour productivity, reduction of costs, increase in accumulation and profitable operation of all enterprises. Parallel with this, they elaborate targets for the efficiency of capital investments in industry, particularly the introduction of new technology (equipment, automation, new technological processes, etc.).

Such in general outline is the essence of the methodological principles in planning industrial production.

Planning the development of industry is a multi-faceted process of working out various *quantitative and qualitative assignments* for the production and distribution of

industrial output, specialisation and co-ordination of production, capital construction, assignments for the supply of enterprises with raw and other materials, fuel, electric power and equipment and for the provision of manpower, and also of elaborating the financial targets for industrial enterprises, organisations and economic councils.

The system of targets for industry in the national economic plan should reflect the production ties between branches of the economy, support scientifically all the plan assignments, and should be comparable with the targets of all the other sections of the national economic plan and also with the reports of statistical agencies.

The targets of the industrial plan are changed and improved in conformity with the change in the scale of production, technical progress, the modifications in the nomenclature of the goods and improvement of the organisational forms of industrial management.

The main, decisive targets of the industrial production plan are the assignments for the output of important industrial goods in physical terms and also for the scale and growth rate of gross and saleable output.

The production plan of an enterprise covers all the categories of goods it produces, broken down in detail in conformity with the purposes the goods are to satisfy.

Plans for economic administration areas, drawn up by economic councils on the basis of the plans of enterprises, give only the main nomenclature of goods. Plans of industrial output for enterprises under the jurisdiction of autonomous republics, territories, regions and cities, drawn up by the respective planning commissions, likewise give only the main nomenclature of goods.

Summary plans of industrial output of the Union republics are drawn up on the basis of the plans of economic councils, republican ministries and departments and also the corresponding Soviets for an abbreviated nomencla-

ture, with account of the specific features of the production ties of each Union republic and especially of the ties between areas and between republics. To ensure the drafting of a general state plan of inter-republican deliveries and the allocation of output, republican gosplans, in addition to the nomenclature of the national economic plan, make calculations for the entire nomenclature of goods included in the plan of inter-republican deliveries and present them to the Gosplan of the U.S.S.R.

The targets of industrial output given in physical terms are the basis for drawing up the entire system of targets in the plan of industry, for establishing the proportions and rates of industrial growth, for preparing material balances, the material supply plans and the plans of co-ordinated deliveries.

The targets of industrial production in physical terms are fixed in units of measurement (tons, metres, etc.).

In addition to targets of industrial production in physical terms, the economic development plan of the Soviet Union as a whole and of each Union republic contain special assignments for the production and delivery of equipment with a long production cycle (large rolling-mill and power equipment, etc.) specifying the main supplier and consumer plants.

The co-ordination of production plans in the engineering industry between the Union republics is done with the help of targets of production and inter-republican co-ordinated deliveries of major parts, details and sections of machines and also castings, forgings, stampings and other items.

Technical progress is characterised by assignments of the plan for mechanisation and automation, the introduction of the latest technology and the development of new highly important machines, equipment, instruments and materials. The main assignments for major research and experimental work done by scientific institutions reflect the development of science and technology.

Assignments as regards assortment and the quality of output are set in national economic plans for a very limited range of the most important articles. These targets are worked out in detail in plans approved by the Union republics, economic councils and enterprises and also in the material supply plans.

Not all the targets of the industrial production plans elaborated by economic councils, republican gosplans, all-Union ministries and the Gosplan of the U.S.S.R. are approved. Some of them are of an auxiliary nature and are used for calculation purposes in various sections of the plan. They are examined only in the process of working out draft plans. The targets used to ground the production plans for branches of industry include targets for the use of productive capacity, technical and economic performance of the main units and equipment, balances of industrial raw materials, for example iron ore and manganese ore, electric ferroalloys and also steel, oil, peat, and balances of agricultural raw materials, namely, cotton, oil seeds, grapes for wine making, tobacco, etc.

The most important targets of the economic plan, those which characterise the final results of production, are the gross and saleable output of industry. These targets are needed for establishing the industrial output plan as a whole, fixing the growth rates of the physical volume of production, and for other planning purposes. On the basis of data of gross output a number of other important targets are elaborated, specifically the dynamics of the growth of industrial production and the rate of increase in labour productivity.

Saleable output is of great importance for calculating balances of materials, transportation plans, for setting the assignments as regards the cost of production, accumulation and other financial targets. The material ties of industry are determined on the basis of saleable output.

Gross output of industry is planned according to the

“factory method”*. This method of planning reflects the continuous process of integration, specialisation and co-ordination of production at enterprises, but at the same time it does not reveal in full measure the outcome of productive activity since integration, for example, although not reducing the actual volume of production, brings about a decrease in the volume of gross output. This should be taken into account when drawing up plans and analysing the dynamics of gross output, using for this purpose special adjustment coefficients calculated by statistical agencies.

Wholesale prices of enterprises, introduced on July 1, 1955, are used for the planning and accounting of gross output. The plan of saleable output is figured in prices in effect at the moment when the plan is drawn up. When introducing changes in the annual assignments in the long-term plans, saleable output is given in both the prices used when the long-term plan was drafted and the prices in force when the annual assignment is worked out.

Within the bounds of one economic administration area the evaluation of similar goods at all enterprises is done at uniform wholesale prices (tariffs). Articles of different brands, grades, sorts, etc., are evaluated, as a rule, in prices given in the price lists of the respective goods. If in practice it is difficult to evaluate the goods at the prices of the various brands, grades, etc., when working out the plan the economic councils and Union republics may use average prices for groups of articles, taking into consideration the contemplated changes in the assortment.

If wholesale prices vary between belts or areas, the plans of the Union republics must take account of any contemplated changes in the weight of areas with different price levels. For these purposes, for example, in the coal industry calculations are made for coal production sepa-

* Gross output is calculated for the factory as a whole as an economic unit, without taking into account the turnover within the factory between shops and departments.—Ed.

rately in each coal area, and within the bounds of one area, for each brand and grade of coal.

Plans of saleable and gross output are constructed according to branches of industry. In cases where enterprises produce goods related to several branches, each enterprise is listed wholly in the branch which gets the biggest part of the value of its saleable and gross output.

In the case of new articles or articles produced on single orders or on a contract basis, if no price lists are available, they are included in saleable and gross output on the basis of temporary or contract prices in force at the time when the plan is drawn up; if no such prices are available, the articles are included at conditional prices fixed for the first year on the basis of the conditions obtaining during the organisation of the manufacture of these articles, and for the second and subsequent years, on the basis of conditions of quantity or serial production.

The accepted methodics of planning industrial production according to gross output has its shortcomings. Some enterprises seek to draw up and fulfil the plan of gross output as the most important synthetic index of performance in such a way as to produce the most expensive but least labour-consuming articles, ignoring the required assortment of goods. Other enterprises, seeking to meet or exceed the target for gross output, produce, over and above plan, secondary items which are in limited demand.

These shortcomings exist particularly in such branches as the clothing industry. At a factory or tailoring establishment the cost of sewing a similar garment is the same. But gross output rises considerably if the overcoats, suits, etc., are made of expensive fabrics and, conversely, declines if cheaper fabrics are used. In view of this, in addition to the index of gross output, a production target based on the cost of working up the material has been applied in a number of industries. Since 1957 a system has been introduced in the clothing industry for assessing the performance of a factory only according to the cost of

sewing the finished garments, irrespective of the cost of the materials used. This, however, does not preclude the calculation of the production plan according to gross output. To calculate the new target standards are used which are the same for the entire Soviet Union. They were worked out and approved in 1957 on the basis of the expenditure of time for each type of garment. A similar system has also been introduced in the printing industry. Here, too, output is figured without the cost of the paper, cardboard and binding cloths (both of the printery and of the client).

The new target, to a much smaller extent than gross output, is subject to fluctuations under the influence of a change in the nomenclature of the goods produced, the cost of the consumed raw and other basic materials, or the share of co-ordinated deliveries. That is why this target is widely used in other branches which consume large quantities of materials.

In addition to this target, a system of additional calculation of output in terms of money was introduced in some industries in 1957-58.

In cases when saleable and gross output do not characterise sufficiently and exactly the production activities of enterprises, economic councils, upon agreement with republican gosplans, establish for the more correct appraisal of production activities additional indices of gross and saleable output, deducting from the sum the cost of all finished goods, sections and parts, semi-manufactures and basic materials which an enterprise received from other plants.

In the present conditions the system of targets and methodology of planning the national economy, especially industry, must be further improved. Among the scientific methodological problems requiring solution are the questions of replacing gross output by other targets for all industry, and of the scientific classification of branches of industry.

3. The Principles of Planning the Growth Rates of Industry

The ensuring of high rates of extended reproduction in industry is a cardinal principle of planning. At the present stage the continuous growth of production at high rates is the most important condition for building up the material and technical basis of communism in the planned period, for ensuring the fullest satisfaction of the material requirements of socialist society. It is a prime requisite for accomplishing the main economic task of the U.S.S.R. "The fundamental problem of the coming seven years is to make the most of the time factor in socialism's peaceful economic competition with capitalism," it is pointed out in the resolution of the Twenty-First Congress of the C.P.S.U. on the control figures for the economic development of the U.S.S.R. for 1959-65.*

Consequently, one of the main questions in planning the development of industry is to set high rates of growth for each type of output and the correct proportions in developing the economy.

The rate of production growth and proper proportions in industry must not only ensure the satisfaction of society's requirements in industrial output at the given moment, but also take into consideration its long-term needs.

Targets of rates and proportions, being the most generalised assignments, are closely interconnected and are inseparable. That is why they must be simultaneously fixed in the plans on the basis of a thorough analysis of the separate interdependent targets of production and consumption. For example, when fixing the growth rate for the production of rolled ferrous metals it is necessary to analyse the proportions in metallurgical production and the consumption of the main items in this industry (steel,

* *Decisions of the Twenty-First (Extraordinary) Congress of the Communist Party of the Soviet Union, Moscow 1959, p. 12.*

pig iron, iron ore) and also the proportions in the output of metal-consuming industries, especially engineering, in accordance with the quantity, assortment and quality of rolled stock that goes for the manufacture of machinery and equipment. Experience shows that high rates of output in all industries can be achieved only if the plans provide for the proper proportions in the growth of various branches and, what is particularly important, the proper proportions between the production programme, volume of capital construction and the material supply plan.

The superiority of the socialist system of economy over the capitalist system is most strikingly revealed in high rates of growth of industrial production. This is confirmed by a comparison of the growth rates of industrial output.

The socialist industry of the U.S.S.R. has greatly outstripped the United States, Britain and France in rates of growth. Between 1918 and 1959 industrial production in the Soviet Union increased at an average annual rate of 10.1 per cent. During the same period industrial output in the United States grew on the average only 3.3 per cent annually; in Britain, 1.9 per cent, and in France, 3.2 per cent. In the last seven years (1954-60) the average annual growth rates in American industry were 2.5 per cent and in Soviet industry, 11.1 per cent.

The growth of industrial production in the capitalist countries is very uneven and unstable. After the Second World War industrial production in the United States actually fell on four occasions (1948-49, 1953-54, 1957-58, and the decline which began in 1960).

High rates of industrial development are the decisive factor upon which the final outcome of the economic competition between the socialist and the capitalist systems hinges.

Indices of industrial production growth, being in terms of percentages, reflect only relative increases. But Lenin, while analysing statistics more than half a century ago in his famous study *The Development of Capitalism in Rus-*

sia, put forward the very important proposition that in an analysis of economic development it is not enough to limit oneself to a comparison of rates, of relative data; it is likewise necessary to examine data of absolute growth.

The magnitude of the absolute increase of output depends on the over-all size of production.

Soviet industry is steadily developing, the scale of production and volume of output are rising continuously. That is why a one per cent increase in output always represents, for a given period, a bigger absolute increase than for the preceding period.

This point is well illustrated by data in Table 2.

Table 2

**Average Annual Growth Rate of Gross Industrial Output
in the Soviet Union**

P e r i o d	Percent- age for industry as a whole	Of which:	
		Output of the means of produc- tion (Group A)	Output of articles of consumption (Group B)
First Five-Year Plan (last quarter of 1928-32)	19.2	28.5	11.7
Second Five-Year Plan (1933- 37)	17.1	19.0	14.8
Three pre-war years of the Third Five-Year Plan (1938-40)	13.2	15.3	10.1
Fourth Five-Year Plan (1946- 50)	13.6	12.8	15.7
Fifth Five-Year Plan (1951- 55)	13.2	13.8	12.0
Seven-Year Plan (1959-65) . .	8.6	9.3	7.3

An analysis of the average annual rate of production growth given in the table shows a relative decline. But this does not mean that the volume of increase in industrial production dropped. One per cent of increase in in-

dustrial production in 1928 amounted (in present-day prices) to less than 50 million rubles, while in 1958 it was over 1,000 million rubles. In the Seven-Year Plan account was taken of the considerable difference which one per cent of increase in output will amount to at the beginning and the end of the seven-year period. Thus, in 1959 one per cent increase in total production amounted to about 1,500 million rubles, while in 1965 it will be approximately 2,000 million rubles. In the course of seven years the average annual increase in industrial production will exceed 13,500 million rubles, whereas in the preceding seven years it averaged 9,000 million rubles.

The considerable growth in the actual volume of output comprising a one per cent increase, as industry develops, can be seen from the data of Table 3.

Table 3

Absolute Magnitude Represented by a One Per Cent Increase in Annual Production in Various Industries

	Unit of measurement	1929-32	1933-37	1938-40	1946-50	1951-55	1959-65 (plan)
Pig iron	thousand tons	33	62	145	88	195	395
Steel	"	43	59	177	123	273	557
Rolled metal	"	34	44	130	85	209	426
Coal	"	355	644	1,280	1,493	2,611	4,956
Oil	"	116	214	285	194	379	1,129
Electric power . . .	million kwh	50	135	362	433	912	2,330
Cement	thousand tons	18	35	55	18	102	333

In recent years the Soviet Union has outstripped the United States both for the rate of growth and the annual absolute increase of production of such major items as

iron ore, pig iron, steel, coal, oil, cement, sulphuric acid, paper, woollen and cotton fabrics, footwear and some other goods.

In 1959, the U.S.S.R. was ahead of Britain, France and West Germany in the absolute production of iron ore, pig iron, steel, coal, oil, gas, electric power, timber, sawn timber, cement, cotton, woollen and silk fabrics, sugar, meat, milk, butter and fish. The U.S.S.R. also exceeded the absolute volume of production in the United States for such items as coal, iron ore, commercial and sawn timber, grain combine-harvesters, electric locomotives, rail wagons and carriages, wool and woollen fabrics, granulated sugar, milk and milk products.

In 1965, the production of many major goods in the Soviet Union will be higher than their level in the United States (in 1959), including iron ore (by 150-167 per cent), pig iron (by 18-27 per cent), steel (by 1-7 per cent), turbines, metal-cutting machine-tools, tractors, mineral fertilisers, cement (by 31-42 per cent). In 1965, the Soviet Union will have a higher output per head of population than the level of the United States (in 1959) for the following items: iron ore, coal, timber, mineral fertilisers, cement, tractors, woollen fabrics, milk and some other goods. For butter production *per capita* the Soviet Union exceeded the United States already in 1959: the Soviet Union produced 4 kg. and the United States 3.7 kg. The same was true in 1960.

The Soviet Union will draw very near to the United States in *per capita* output of other important goods. Thus, a decisive stage in the economic competition with the United States will be passed in the current seven-year period.

The question of so-called "slowing down" of rates should be examined in connection with planning the rates of industrial production.

Bourgeois economists do not conceal their anxiety over the high rates of industrial growth in the Soviet Union and they frequently say that as the U.S.S.R. reaches industrial

maturity the pace of Soviet industrial development will inevitably "slow down" and that such allegedly is the "fate of all industrial countries". In reality, however, the theory of the "slowing down" of Soviet rates has nothing in common with life, with the correct understanding of the factors making for the growth of Soviet industry. The fallacy of this theory is rooted in that its authors are trying to judge socialist economy on the basis of the laws governing the development of capitalist economy.

The experience of the U.S.S.R. shows that in years of peaceful development industry has invariably grown at high rates, as confirmed by data of the average annual rates of increase before and after the war (percentage).*

In forty-three years (1918-60)	+	10.1
Eleven pre-war years (1930-40)	+	16.5
Sixteen post-war years (1945-60)	+	10.6
Including the last seven years (1954-60)	+	11.1

In his report to the Twenty-First Congress of the C.P.S.U., Comrade N. S. Khrushchov pointed to the possibility of exceeding the assignment for the growth of industrial production, fixed at an annual average of 8.6 per cent for the seven years, approximately by another 1-2 per cent.

The fulfilment of the Seven-Year Plan in the first two years shows that this forecast was well founded. For example, the target for 1959 was to raise industrial production by 7.7 per cent; the actual increase was over 11 per cent. In other words, in the first year of the Seven-Year Plan the rate of growth was about the same as in the preceding post-war years. A similar increase in industrial output was registered in 1960.

The Seven-Year Plan envisages high rates of development not only for industry but also for all the other branches of the economy.

* *The U.S.S.R. 1960. Statistics*, Russ. ed., 1961, p. 109.

Table 4

	Increase in seven years	Average annual rate of increase
	(per cent)	
Gross output of industry	80	8.6
Gross output of agriculture	70	8.0
Volume of construction	78	—
Freight carried by all modes of transport	62	7.2
State and co-operative retail trade .	62	7.2

High rates of economic growth are a general law of socialist reproduction determined by the essence of the socialist system. The operation of this law is confirmed by the fast growth rates in all the countries of the world socialist system. Between 1954 and 1958, the average annual growth rate of industrial production in all the socialist countries was 11 per cent, while in all the capitalist countries taken together it was 3 per cent.

The high rates of economic growth in the Soviet Union, just as in the People's Democracies, stem from the fundamental advantages of the socialist system of economy over the capitalist system, expressed particularly in the absence of economic crises; they are a result of constantly operating, and not transitory, factors which determine the stability of growth rates over a long period.

An increase in production of socialist industry depends on the following constant factors:

a) systematic improvement in the use of productive capacity and fixed assets at existing enterprises;

b) the volume of productive capacity commissioned at new enterprises and shops and also in reconstructed shops of existing enterprises and the periods when it is commissioned;

c) an increase in labour productivity achieved at existing enterprises and also attained through the commission-

ing of new enterprises equipped with up-to-date machinery and having a better organisation of labour;

d) changes in the structure of production and also the development of specialisation, co-ordination and integration of production;

e) the building up of resources of raw materials, fuel and electric power and the continuous development of previously discovered natural resources.

High rates of economic growth in the Soviet Union are ensured by socialist production relations which conform to the level of the productive forces and stimulate their development, by the initiative and constructive endeavours of the working people who are participating in socialist emulation.

In envisaging high rates of growth in economic plans, the Soviet state also takes into consideration other conditions favouring the accelerated development of industry. Among them particularly are the numerous highly qualified scientists and engineers capable of solving the most intricate scientific and technical problems of economic development; an improvement in the methods of economic management and planning, which facilitates further advances in the operation of industry and helps bring to light additional potentialities for faster expansion of production.

Another important condition which favourably affects the rates of industrial growth is the economic co-operation of the countries of the world socialist system and the division of labour between them on the basis of thoroughgoing specialisation of industry.

In planning the development of industry, concrete calculations of the magnitude of production increases are made for the separate factors which ensure the expansion of output.

The main factor of industrial production growth is the systematic rise of labour productivity. Approximately three-fourths of the total annual growth of industrial pro-

duction is a result of higher labour productivity. In the Fifth Five-Year Plan (1950-55) this factor accounted for 68 per cent of the entire increment in output, and in 1956-58, for 73 per cent.

During all the years of peaceful economic development, Soviet industry has, as a rule, increased the productivity of labour. In 1960, productivity of labour in industry was 11.4 times higher than in 1913, though the length of the working day was cut.

The influence of the main factors making for an increase in production is concretely expressed in the targets of the national economic plan. In 1959-65, labour productivity per worker in industry should rise by 45-50 per cent. Seventy-five per cent of the increase in industrial production should come from higher labour productivity.

According to Gosplan calculations, labour productivity in the seven-year period will rise by 30 per cent through the introduction of new technology, over-all mechanisation and automation, modernisation of equipment and its replacement by more powerful units. In calculating the growth rates in steel production, for example, such a factor as the scale of application of oxygen blast is taken into account. This progressive method increases the production of metal at existing furnaces by approximately 20 per cent; at the same time the consumption of fuel is cut by 10 per cent, and of materials used for the charge, by 20 per cent.

The bringing into operation of new capacity is an important factor making for high rates of production growth. In calculating the increase of industrial output account is taken of the contemplated commissioning of capacity. For example, in setting the production programme of the iron and steel industry for 1958 account was taken of the blowing in of seven blast furnaces that year.

The constantly expanding scale of capital investments in industry is a major factor of high growth rates. Thus, in

the First Five-Year Plan, the average annual capital investments in industry amounted to 650 million rubles; in the Fourth Five-Year Plan, to 3,500 million rubles, Fifth Five-Year Plan, to 6,900 million rubles, and in 1956-58, to over 10,000 million rubles. In 1959, capital investments in industry reached 12,800 million rubles, that is, nearly 20 times as much as the annual average of the First Five-Year Plan and two times as high as the annual average of the Fourth Five-Year Plan.

To achieve still greater economic and cultural progress in 1959-65, the Seven-Year Plan calls for an unprecedented scale of state capital investments in the national economy of about 200,000 million rubles, or nearly as much as was invested in all the preceding Soviet years.

During 1959-65, total capital investments in the national economy will rise by 80 per cent, while investments in industry will grow by 100 per cent. About 70,000 million rubles will go to heavy industry.

That is why the rates of industrial growth in plans are established not only on the basis of material balances and of calculations of the use of existing capacity, but account is also taken of the capital investments allotted for the different industries. A long-term production programme of industry is, as a rule, bound up with large capital investments for new construction, the reconstruction of operating enterprises and, consequently, the commissioning of new capacity during the period covered by the plan. The elimination of disproportions and bottlenecks largely depends on the scale of capital investments and their distribution between units at existing enterprises.

Higher rates of development in key industries can be achieved provided correspondingly bigger capital investments are allocated in the plans. In other words, if the control figures set definite rates and proportions for the development of various industries, the capital construction plans must also envisage the volume of investments in these branches necessary to ensure the contemplated

rates and proportions through the appropriate expansion of capacity.

For this purpose a centralised policy of allocating capital investments between all branches of the national economy, industry in particular, is strictly pursued. This function is fulfilled by the Gosplan of the U.S.S.R., which allocates in the plans capital investments not only between Union republics but also between the key industries of each Union republic, in conformity with the assignments for industrial development set by the Central Committee of the C.P.S.U. and the Government.

In the seven-year period (1959-65) capital investments in industry will approximately double, but investments in some key branches will be increased to a greater extent, as seen from the following data.

Table 5

**Total Capital Investment in Selected Soviet Industries
(1959-65, Compared with 1952-58)**

	1952-58	1959-65	1959-65, percentage of 1952-58
	(million rubles, in comparable prices)		
Iron and steel industry . .	4,100	10,000	245
Chemical industry	2,000	10,000-10,500	502-528
Oil and gas industry . . .	7,200	17,000-17,300	235-240
Coal industry	6,100	7,500-7,800	122-127
Power stations	7,500	12,500-12,900	166-172
Engineering industry . . .	6,500	11,800	180
Timber, paper and wood- working industry . . .	2,500	5,800-6,000	229-237

Capital investments in the seven industries listed above will exceed 76,000 million rubles, and will amount to about two-fifths of all the investments in the entire national economy in 1959-65. This will make it possible to commission in seven years capacity two or three times greater than

that put into operation in the preceding seven years. It will also be several times greater than the capacity put into service in the First and Second Five-Year plans combined, as shown in Table 6.

Table 6

	1929-37	1952-58	1959-65 (plan)
Iron ore million tons	22.3	67.4	125.0
Pig iron " "	11.8	16.3	24-30
Steel " "	10.4	12.4	28-36
Rolled stock " "	9.6	6.9	23-29
Coal " "	135.4	184.9	200-220
Gas million cu m	—	96,000	646,000
Electric power million kw . .	6.4	31.5	58-60

Such an increase of capacity will greatly step up the growth rate in the key industries as compared with the preceding seven-year period.

The larger size of new enterprises and bigger capacity of individual units will make it possible to utilise to the utmost all the advantages of large-scale production.

Very large units, modern machines and powerful equipment have already been developed and are in operation in many industries of the Soviet Union, promoting the highest labour productivity and efficiency of production. Leningrad plants, for example, have been the first in Europe to master the manufacture of steam turbines of 200,000 kw with highly economical performance indices and also steam turbines of 150,000 kw with steam of super-high temperature and pressure. A unique turret lathe weighing 750 tons and machining parts of up to 260 tons has been developed at the Kolomna Heavy Engineering Works. Super-powerful walking excavators with a bucket of 25 cu m and a boom of 100 m have been produced and are working well; one such excavator does the work of 30,000 navvies.

Powerful, highly efficient machines are used in all branches of the economy.

The Seven-Year Plan calls for the development of exceptionally powerful units and the building of very large plants on this basis. For example, highly economical thermal power stations with a capacity of 1,200,000-2,400,000 kw will be built with the simultaneous increase of the capacity of a turbine to 300,000 kw. By 1965, turbines with a capacity of up to 600,000 kw and with steam of super-high temperature and pressure will be manufactured and installed at power stations.

In the iron and steel industry the programme provides for huge mechanised and automated units equipped with modern machinery, namely, blast furnaces with a volume of 1,700-2,286 cu m; sintering machines with a sintering surface of up to 200 sq m; converters with a melt of over 500 tons; open-hearth furnaces with a capacity of 500 tons; electric steel furnaces with a capacity of up to 180 tons, and other units assuring the continuity of technological processes, mechanisation and automation. This will enable the industry in 1965 to increase the annual production of pig iron per blast furnace to 543,000 tons as against 341,000 tons in 1958, and of steel, to 200,000 tons per furnace as against 125,000 tons. Metallurgical processes will be intensified, the utilisation of capacity will be improved, the expenditure of fuel and other materials reduced and labour productivity will be sharply raised.

The Seven-Year Plan provides for the design and manufacture of new large machines and equipment necessary for over-all mechanisation and automation. It is planned radically to improve the technology of production and to retool engineering plants by means of large-scale renewal and modernisation of equipment and also considerably to extend mechanisation and automation not only of the main but also of auxiliary jobs, raising the efficiency of machines and equipment.

Fully automated shops and factories will be developed

in each industry, especially in engineering. Over 50 model experimental plants in which the latest projects of over-all automation will be applied are to be set up in the seven-year period.

The Seven-Year Plan proceeds from the premise that in all the manufacturing industries capital investments should go mainly for the radical reconstruction, expansion and technical re-equipment of existing enterprises on the basis of mechanisation, automation, modernisation and large-scale renewal of equipment.

The policy of large-scale technical re-equipment of existing enterprises in many cases will make it possible to expand production with smaller money and material outlays and faster than through the building of new enterprises.

The increase in the number of workers, in view of the construction of new enterprises and the expansion of existing plants, is a major factor making for greater industrial production. In the seven-year period the labour force in industry should rise by more than four million.

Account of all these factors made it possible to plan the expansion of industrial output at high rates.

Table 7

Average Annual Increase in the Output of Major Industrial Items in the U.S.S.R.

	Unit of measurement	1952-58	1959-65 (plan)
Pig iron	million tons	2.5	3.5-4.4
Steel	" "	3.4	4.4-6.0
Rolled metal	" "	2.7	3-4
Oil	" "	10.1	17-18
Gas	million cu m	3,400	17,100
Electric power	million kwh	18,400	38,000-41,000

The contemplated increase of output in the major branches of heavy industry will be the largest on record;

for some branches it will exceed the volume achieved in their entire history, and for others will be close to that level, as shown in Table 8.

Table 8

**Planned Absolute Increase of Output in Major Industries
of the U.S.S.R. in 1965, Compared with 1958**

	Unit of measurement	Volume of pro- duction in 1958	Planned absolute increase of out- put over the 7 years: 1959-65
Iron ore	million tons	89	61-71
Pig iron	" "	40	25-30
Steel	" "	55	31-41
Rolled metal	" "	43	22-27
Oil	" "	113	118-127
Cement	" "	33	42-48
Electric power	million kwh	235,000	265,000-285,000

In drawing up the national economic plans all the factors facilitating a maximum growth of industrial production are taken into consideration and this creates favourable conditions for accelerating the pace of building up the material and technical basis of communism in the Soviet Union.

The creation of the material and technical basis of communism has historically coincided with epoch-making scientific discoveries and technological inventions far exceeding for their importance the industrial revolution associated with the use of steam and electricity. Socialist planned economy is entering the era when automation, electronics, computing machines and transistors are promoting unprecedented technical progress. All this made it possible to foresee in the Seven-Year Plan the development of industry and all branches of the national economy on a scale without parallel in history.

4. Planning of Proportions in the Economy

The establishment of proper proportions in the industrial production plan is a major task of planning agencies.

A thoroughgoing analysis of the proportions and production ties already existing in industry and in the entire economy is a necessary requisite for setting proper proportions in plan assignments.

Economic proportions represent the definite correlations between separate spheres and branches of material production that arise in the process of extended reproduction. The social division of labour underlies these correlations.

Proportionality implies the harmonious interconnected development of all the branches of the national economy. This development requires the timely supplying of enterprises and construction sites with products in quantities and of quality and varieties necessary for the normal process of production and the accumulation of state reserves. Moreover, the concept of output includes not only the output of industry and agriculture but also of construction (the commissioning of new capacity) and transport. The concept of proportionality also includes the distribution of the man-power resources and location of the productive forces.

Disproportionality is expressed in the lag of some branches behind the general rate of economic growth and signifies a temporary discrepancy between production and consumption in socialist society. It is a primary task of planning agencies to study this discrepancy, which under socialism at times arises in separate branches of the economy or separate sections of production, and to work out measures for removing and preventing it.

Marx distinguished several types of social division of labour: the general division of social production into "genera" (agriculture, industry, etc.), the particular division

of production into "species" and "sub-species" and the individual division of labour within a workshop, etc.

Proceeding from this proposition, the *general economic proportions*, for example, will be the correlations between Departments I and II of social production (in industry between Groups A and B), between industry and agriculture, between production and the transport services, between industry and the power resources, etc. The correlations between current production and capital construction, between accumulation and the consumption of output, etc., also belong among the general national economic proportions.

Among the *particular proportions, within and between branches* of industry, are the correlations between mining and manufacturing, and, for example, between metallurgy and engineering, between spinning and weaving, and so on and so forth.

Proportions within a factory can be the correlations between separate shops or sections within an enterprise (between the main and auxiliary shops, between preparatory and processing shops, between separate groups of machines, and so on).

In addition to branch proportions there are also proportions *between republics*, proportions *within and between areas* which characterise the ties and location of production according to territory.

The singling out of the main links of the plan ensures priority growth at high rates in the output of the means of production, especially of heavy industry. This ensures the accelerated advance of the entire economy towards communism. But within heavy industry itself some or other branches, whose priority development is of decisive significance for accomplishing specific economic tasks, are singled out at different stages.

In working out the industrial production programme, it is of decisive importance to establish the proportions and rates of growth for the key branches of heavy industry,

above all those which produce raw materials, fuel and power. It is for these key branches that the Gosplan of the U.S.S.R. and the republican gosplans in the first place fix targets for the scale and rate of growth of production, allot capital investments and labour and set the assignments for increasing productive capacity.

In accordance with the rates of growth of output in the key industries, the national economic plan provides for the corresponding development of allied producing and consuming branches in such a way that, on the one hand, the key industries shall be fully provided with equipment, materials, fuel and electric power, and, on the other hand, the output of the raw-material producing branches shall be consumed most rationally.

In the control figures for the economic development of the U.S.S.R. in 1959-65 the following branches have been singled out as the key links in the development of industry: iron and steel, non-ferrous metals, the chemical industry (particularly the production of plastics and artificial fibres), the oil and gas industry and the power resources. The largest capital investments, material and labour resources have been assigned for the development of these branches.

The main links must be singled out when drawing up the plans not only for the entire Soviet Union but also for the Union republics, economic administration areas and separate enterprises. The planning agencies choose these links and provide for the priority supply of the key branches or enterprises with capital investments, material resources and labour.

To establish proper proportions in the development of separate branches of heavy industry when drafting a plan a number of structural correlations are analysed by planning agencies, namely, the production assets of industry by branches, the share of workers by branches, the structure of the total output of industry. As a rule, the total output of the engineering and metal-working industries is spe-

cially singled out and analysed in national economic plans. The structure of production of all industry is analysed by branches both for the period taken as a base and for the planned period.

Changes in the rate of growth bring about changes in the structure of industry. Let us examine as an example the proportions of major branches as seen from the structure of the production assets of Soviet industry.

Table 9

Share of Branches in the Production Assets
of Soviet Industry (Percentages)

	1950	January 1, 1960
All industry	100	100
of which:		
Iron and steel	8.7	9.6
Non-ferrous metals	5.3	4.2
Fuel industry	15.7	17.0
of which:		
Oil (extraction, refining, production of gas)	5.9	7.3
Coal	7.1	8.8
Chemical	5.4	4.9
Power stations	9.3	11.9
Engineering and metal-working industry .	27.7	20.3
Timber, paper and woodworking industry	6.4	5.9
Building materials industry	4.1	5.3
Light industry	4.7	4.5
Food industry	9.1	9.1

The structural changes in industry, shown in Table 9, reflect the policy of accelerating the growth of the branches which produce raw materials—the iron and steel, oil and power industries.

Such industries as engineering and metal-working, the light and food industries contribute approximately two-

thirds of the gross industrial output. The general rate of industrial growth largely depends on the absolute magnitude of the increase of production in these branches. Yet, so far their output is in a large measure determined by the availability of raw material resources of metal for the engineering industry, of agricultural and chemical raw materials for the light and food industries. Consequently, the successful solution of the problem of metal for the engineering industry and of raw materials for the light and food industries in the next few years will make it possible greatly to accelerate the growth rates in Soviet industry.

The rate of development of separate industries, stipulated in the Seven-Year Plan, essentially changes the proportions between the major branches within industry.

The average annual rates of growth in separate industries are as follows (percentages):

Table 10

	1952-58	1959-65 (plan)
All industry	11.6	8.6
Metallurgical industry	6.0	9.4
Oil and gas industry	6.8	13.8
Chemical industry	8.7	15.7
Power stations	9.7	12.7
Engineering industry	12.9	10.5
Coal industry	7.0	4.2

The high rates of growth of the raw material industries in the current seven-year period will eliminate existing disproportions, in particular the development of the metallurgical industry at a faster pace than the average for all industry will remove the disproportion between the increase of metal production and the expansion of output in other branches; high rates of growth in the production of electric power will promote the building up of a firm pow-

er base for all branches of industry; acceleration of the rates of growth of oil and gas production and the expansion of the chemical industry will radically alter the balance of fuel and raw materials in a number of industries.

The change in the relationship between mining and manufacturing as a result of accelerating the growth of the mining industry is to be carried out in 1958-65 approximately as follows (per cent):

Table 11

	1958	1965 (plan)
All industry	100.0	100.0
Mining	20.9	23.8
Manufacturing	79.1	76.2

In the manufacturing industry the share of branches which process non-agricultural raw material will also increase as shown in Table 12.

Table 12

	1958	1965 (plan)
	(per cent of all manufacturing industry)	
Branches of industry processing mainly non-agricultural raw materials	54.7	58.6
Branches of industry processing mainly agricultural raw materials	45.3	41.4

Establishment of proportions between the development of the production of means of production and articles of consumption. The most important proportion of socialist extended production is the correlation between the pro-

duction of means of production (Department I) and the production of articles of consumption (Department II). Lenin pointed out that the Marxist formula about the correlation of Departments I and II in the social production of capitalism holds good for socialism and communism, but the social and economic relations underlying this formula are radically changed.

In socialist society Departments I and II are developed in a planned way and are co-ordinated. Together with the growth of social production there rises consumption by the people, while the faster rate of increase in the output of means of production creates the possibility of systematically expanding the output of articles of consumption, that is, of raising the people's standard of living.

The bulk of the means of production is produced by industry. According to approximate calculations, industry accounts for 54 per cent of all the means of production created in the national economy. That is why the proportions of output of Group A and Group B in industry largely determine the correlation between Departments I and II in the entire national economy.

Therefore, a cardinal task of planning agencies is to establish the proper proportions between the two main divisions of industry, Group A and Group B. The output of these groups is given in the state plan and in the reports of its fulfilment usually in terms of value in conformity with the existing classification of branches of industry.

But in characterising the operation of the law of priority growth in the production of means of production we must not limit ourselves to an analysis of industrial output. This law operates not only in industry but also in construction, in agriculture, in the entire sphere of material production. That is why it is necessary to analyse Departments I and II for the entire sphere of material production.

An analysis of proportions between Departments I and II in the entire sphere of material production is of great importance for ascertaining the structure of the social pro-

duct in drawing up the national economic balance of the Soviet Union. In calculations of the aggregate social product with its breakdown into Departments I and II, the turnover tax is usually excluded; in conformity with the existing system of prices most of the tax is realised in the output of the light and food industries, although the part of the social product that corresponds to it is created in other branches of the national economy as well.

Distribution of the aggregate social product, produced in Departments I and II in recent years (according to approximate calculations), is shown in Table 13.

Table 13

	1953	1957
	(per cent)	
Aggregate social product, minus the turnover tax and receipts from foreign trade operations	100	100
of which:		
means of production (Department I) .	57	60
articles of consumption (Department II)	43	40

Socialist planning is based on the highly important Marxist proposition of the primacy of means of production over articles of consumption, the operation in socialist society of the economic law of priority growth in the production of means of production. Extended socialist reproduction is impossible without priority growth in the production of means of production, above all, the instruments of production (machinery, tools, diverse equipment, agricultural machinery, etc.). It is one of the fundamental requisites for building communism.

This line of the Communist Party has been steadfastly applied at all stages of socialist construction.

Even before the late war new proportions had arisen in the national economy of the Soviet Union, radically altering the structure of industry which had existed in tsarist Russia. Thanks to the priority growth of heavy industry, especially engineering, essential changes had taken place in the correlation of output in branches of Groups A and B.

In working out the plan for industry, planning agencies specially analyse the structure of the output of means of production subdivided into instruments of labour and objects of labour. Of decisive significance in extended reproduction is the priority development of branches which manufacture the instruments of production. Hence the need to step up their production. The structure and growth rate of production in Group A are shown in Table 14.

Table 14

Structure and Growth Rate of the Output of Means
of Production (Group A) in Soviet Industry

	1950	1955	1958	1958 (per cent of 1950)
	(per cent of total)			
Output of means of production (Group A):	100	100	100	263
Instruments of labour	26	31	36	354
Objects of labour	74	69	64	231
For Department I	48	46	42	242
For Department II	26	23	22	213

Instruments of labour comprise about one-third of the total output in Group A and, as seen from data in Table 14, the rate of their growth in 1950-58 was higher than that of the objects of labour. In 1950-58, the growth rate in a number of raw material industries lagged somewhat behind, in view of which it became necessary to accelerate their development in the next seven years.

This applies above all to ore mining, the chemical, gas, cotton-ginning, tanning and some other industries. The output of raw and other materials in these industries did not satisfy the rising requirements of the economy. This was manifested particularly in 1957-58 in a shortage of iron ore for fully loading all the blast-furnace capacity, a shortage of rolled stock for the engineering industry, of cotton, hides, etc., for the light industry.

In planning the output of means of production it is necessary to take into account the fact that expansion of the production of instruments and objects of labour must ensure not only the current requirements of the economy in raw and other materials and fuel, but also make it possible to create current stocks and reserves ensuring the uninterrupted process of production.

The specific features of the goods produced in various industries must be taken into consideration in an analysis of Groups A and B. In some industries which manufacture consumer goods certain products belong to Group A, inasmuch as they are used as raw material for further industrial processing. For example, more than half of the cotton and woollen fabrics, meat, vegetable oil, flour, granulated sugar and salt are classed in Group A. Table 15 indicates the share of Group A and Group B in the total output of some branches of the light and food industries (according to data of 1957).

These correlations are changing in the process of industrial development. That is why in analysing the proportions and growth rates of industrial production it is very important carefully to study its structure.

In the last decade it has become necessary and advisable to develop some branches of the economy—agriculture, the light and food industries—at an accelerated pace to eliminate their lag and the disproportions that had arisen. That is why the difference in growth rates between Departments I and II has been quite insignificant in recent years.

Table 15

	Group A	Group B
	(per cent)	
Average for the U.S.S.R.		
Cotton fabrics	51	49
Linen fabrics	49	51
Woollen fabrics	58	42
Silk fabrics	21	79
Average for the R.S.F.S.R.		
Meat	55	45
Vegetable oil	53	47
Flour	93	7
Granulated sugar	64	36
Salt	58	42

The average annual growth rate in the output of means of production and articles of consumption in industry in the preceding seven-year period (1952-58) was as follows (per cent):

Gross output of all industry	11.5
of which:	
output of means of production	12.4
output of articles of consumption	10.1

Thus, in recent years output in Group B has been increasing at high rates, with the difference between the growth rates in Group A and Group B narrowing down substantially. While in the First Five-Year Plan period the difference was 16.8 per cent, in the Second Five-Year Plan period it was 4.2 per cent, in the Fifth Five-Year Plan period, only 1.8 per cent, and in 1956-58, 1.3 per cent.

The faster growth rate in the output of means of production as compared with the output of articles of consumption is not a constant magnitude. The difference may be greater or smaller, depending on many economic and

political factors. But the tendency for the difference in the growth rates of Group A and Group B to shrink, as seen from the above data, is beyond dispute.

Planning agencies are confronted with an important problem of elaborating methods for determining the necessary degree of faster growth in the output of means of production as compared with articles of consumption in a given period. Its solution should be based on the concrete analysis of the many-sided and complex interconnections of the two departments and the general economic conditions of the country as it advances to communism.

In the current seven-year period reproduction of the social product is planned, as in the preceding period, on the basis of the economic law of priority growth in the output of means of production; output in industries of Group A is to rise 85-88 per cent, of Group B, 62-65 per cent.

Production of instruments of labour will increase at the highest rate; in 1959-65 output of Group A will rise at an average annual rate of approximately 9.3 per cent, while in the engineering and metal-working industry production will grow by about 10.5 per cent annually.

Profound qualitative changes will take place in the structure of output of Department I as a result of bigger production of the latest types of raw materials and goods and continued technical progress. The accelerated development of the chemical, oil and gas industries and the alteration of the fuel balance signify thoroughgoing qualitative changes in the entire output of means of production. As a result, the share of the most economical means of production rises sharply in Department I. For example, the radical alteration of the fuel balance will yield a saving of 12,500 million rubles as a result of replacing coal by natural gas and oil.

At the present stage of industrial progress, the Communist Party has set the task of developing the industries in Group B at a faster pace than before, of extending capac-

ity for the processing of agricultural raw material and also of developing agriculture itself.

"Today," N. S. Khrushchov stated in 1957, "heavy industry, engineering, science and technology have reached such a level when we, without detriment to the requirements of the country's defence, without detriment to the further advance of heavy industry, can develop light industry at a considerably faster rate, specifically, can produce more footwear and fabrics for the population so as to meet adequately the needs of the population in these goods in the next 5-7 years."* This most important directive of the Communist Party is taken into account in planning the rates and proportions of industrial development.

The Seven-Year Plan provides for the commissioning of 1,600 factories which produce consumer goods, including the construction of 156 new large factories and the completion of 114 factories in light industry. Industry will put into operation 3.6 times as many spindles, 2.9 times as many looms, and more than double the capacity for shoe manufacture as compared with 1952-58. To process the growing resources of agricultural raw materials many food factories are to be built, including over 1,000 milk factories and creameries, 250 meat-packing plants, many sugar refineries and other big enterprises.

Such are the main trends in planning the proportions of Departments I and II in the Seven-Year Plan.

Proportions in the development of industry and agriculture. The establishment of proper proportions between the development of socialist industry and agriculture is of great importance in national economic plans. The interconnection of industry and agriculture is distinguished by utmost complexity and diversity.

* N. S. Khrushchov, *Forty Years of the Great October Socialist Revolution. Report at the Jubilee Session of the Supreme Soviet of the U.S.S.R.*, Gospolitizdat, Moscow 1957, p. 47.

The plan of industry is inseparably bound up with the plan of agriculture, which is the biggest consumer of its output. In its turn, the programme of agricultural development, particularly of industrial crops and animal husbandry, is closely bound up with the production programme of a number of industries, in the first place the light and food industries, which consume agricultural raw materials. In the national economy industry holds a primary role, it leads agriculture.

“Socialist society is a producers’ and consumers’ association of those who work in industry and agriculture. If, in this association, industry is not linked up with agriculture, which provides raw materials and foods and absorbs the products of industry, if industry and agriculture do not constitute a single, national economic whole, there will be no socialism whatever.”*

Thus, the harmonious development of socialist industry and agriculture is of exceptionally great importance for the proportionate growth of the country’s entire economy.

State plans establish the economic ties for the planned period and thereby ensure the harmonious development of these leading branches of the socialist economy. The practice of planning shows that any violation of these ties adversely affects the general growth of the socialist economy.

Let us analyse some data characterising the proportions and rates in the development of industry and agriculture during the Fifth Five-Year Plan period when, as is known, a serious lag of agriculture was revealed. It should be noted that Table 16 gives merely a general idea of the proportions between these branches.

A more detailed analysis presupposes the use of other statistical methods of studying the production relations between these two principal sectors of the economy.

* J. V. Stalin, *Works*, Moscow 1954, Vol. 7, p. 203.

Development of Industry and Agriculture
in the U.S.S.R. in 1951-55

Table 16

	1955 as percent- age of 1950
<i>Gross output of industry</i>	185
including:	
Group A	191
Group B	176
<i>Gross output of agriculture</i>	121
<i>Production of major industrial goods from agricul- tural raw materials:</i>	
Butter	137
Sugar	136
Meat (industrial processing)	162
Cotton fabrics	151
Woollen fabrics	162
Leather footwear	135
<i>Average annual growth rate of production in industry and agriculture over the years 1951-55, percentage</i>	
Industrial production	13.2
of which:	
Group A	13.8
Group B	12.0
Production of agriculture	5.0

The data in Table 16 demonstrate the substantial lag of the growth rate of agriculture behind that of industry during the Fifth Five-Year Plan. Moreover, the growth rate of net product in agriculture was even lower than that of gross product. As a result of the shortage of raw materials, the expansion of output of cotton fabrics, leather footwear, butter and sugar was insufficient and fell considerably behind the level envisaged by the Fifth Five-Year Plan, which led to a discrepancy between the level of pro-

duction and the greater requirements of the population in these goods.

In view of the discrepancy between the rising requirements of the economy and the population, on the one hand, and the growth rates of agriculture, on the other, the Communist Party of the Soviet Union and the Soviet Government worked out measures for expanding production in the collective farms and state farms. These measures were carried out in 1953-58 and sharply accelerated the growth rate of agricultural production. Thus, the average rate of increase in gross production of agriculture amounted to 7 per cent in 1954-59 as against 1.6 per cent in 1950-53, which made it possible to eliminate the disproportion between the development of agriculture and industry.

The higher rate of growth is illustrated by the dynamics of gross agricultural production in recent years:

Table 17

1949-53 (annual average)	1954	1955	1956	1957	1958
100	110	122	138	143	158

The high rates of increase in agricultural production were achieved thanks to the large capital investments in agriculture and the considerable expansion of its technical facilities. Total productive assets of the state farms, collective farms, machine-and-tractor stations and repair-and-service stations (without livestock) had increased by 170 per cent at the end of 1959 as compared with 1940.

The biggest progress was made in animal husbandry. The increase in the output of animal products per 100 hectares of farmland between 1953 and 1959 is shown in Table 18.

Table 18

	1953	1958	1959
Meat and fat in slaughter weight, centners	12	15	18
Milk, centners	75	118	123
Wool, kilogrammes	49	65	71
Eggs, thousands per 100 hectares of grain crops	15	18	20

As a result of the accelerated development of agriculture the correlation between the growth rates of industry and agriculture improved.

Table 19

	1952, as percentage of 1940	1958, as percentage of 1952
Gross product of industry	225	191
Gross product of agriculture	101	152

The successes achieved in agriculture, animal husbandry in particular, in recent years have made it possible to improve the supply of raw materials to the light and food industries and better to satisfy the requirements of the population in food. Attainment of the high growth rates of agricultural production, envisaged in the Seven-Year Plan, is a prime condition for accomplishing the task of overtaking the United States of America in the next few years in per capita output of animal products.

In the process of carrying out the plan it is necessary to create a solid basis for the proportionate development of industry and agriculture. Planning agencies, in analysing the respective indices of growth for industry and agriculture, must co-ordinate their development, ensuring the

proper proportions in the progress of the respective branches. For example, it is very important to ascertain the volume of production of industrial crops so that the rates of development of the industries processing agricultural raw materials should conform to the expansion of the raw material resources. It is necessary to adjust the long-term plan for the production of the light, textile and food industries in accordance with the raw material resources obtained from the new crop and the reserves the state has on hand.

Purchases of the main agricultural produce in 1965 are envisaged in the Seven-Year Plan as follows:

Table 20

	1965, absolute quantities	1965, as percentage of 1958
Raw cotton, thousand tons	5,700-6,100	130-140
Sugar beet " "	81,000	159
Flax fibre " "	530	137
Livestock and poultry (live weight), thousand tons	11,050	196
Milk, thousand tons	40,610	184
Wool " "	540	172
Eggs, millions	10,000	221

On the other hand, in planning the development of the engineering industry it is necessary to provide for such an expansion of the production of agricultural machinery as will meet the requirements of agriculture. In the current seven-year period the delivery of machines by industry to agriculture is to rise notably. It is planned to produce for agriculture over 1,000,000 tractors and about 400,000 combines, whereas in 1957 Soviet agriculture had altogether 924,000 tractors and 483,000 combines. Deliveries of mineral fertilisers will rise to 31 million tons in 1965 as against 10.6 million tons in 1958.

An improvement in the correlation of annual growth rates of industry and agriculture is envisaged in 1959-65 as seen from the following data:

Table 21

	1954-58	1959-65	1965, as per- centage of 1958
	(average annual growth, percentage)		
Industry	11.0	8.6	180
Agriculture	8.0	8.0	170

All this will make it possible fully to eliminate the remnants of the former discrepancy between the development of industry and agriculture and to lay a solid foundation for proper proportions between the growth of these two principal branches of material production.

Correlation in the growth of the power industry and other branches of material production. An exceptionally important proportion in the development of the national economy is the correlation between the growth of capacity of power stations and the development of industry, the transport system, housing, public utilities and other consumers of electric power. An adequate supply of electric power is of decisive significance for the advance of the national economy, industry in particular. Electrification holds a leading place in building up the material and technical basis of communism. The tremendous role of electrification in building communism was defined by Lenin in the classical formula: "Communism is Soviet power plus the electrification of the entire country."

The Soviet Union has all the necessary conditions for building up mighty power facilities for all branches of the national economy. The structure of the electric power balance and the place of the power industry in socialist production are indicated by the following data for 1958:

Table 22

<i>I. Structure of the electric power balance of the country:</i>	<i>Per cent</i>
Consumption of electric power in the national economy . .	100
of which:	
Industry	66.3
Transport	3.9
Public services and other consumers	17.8
Needs of power stations themselves and losses in the sphere of general consumption	12.0
<i>II. Structure of generated electric power:</i>	
Thermal electric stations	80.0
Hydroelectric stations	20.0
<i>III. Share of electric stations in consumption of conventional fuel</i>	<i>22-23</i>

The Seven-Year Plan provides for the electrification of all branches of the national economy, of service establishments and homes at a fast rate as one of the important requisites for the continuous growth of the productive forces, the creation of an abundance of material and spiritual values, for the obliteration of the distinctions between mental and manual labour and between town and country. The Soviet Union is now entering a decisive stage in accomplishing the complete electrification of the country.

The gigantic rise in the power and technical facilities available to production workers is shown in Table 23 (1955=100):

Table 23

	1958	1965 (plan)
Power facilities available to labour in industry (consumption of electric power per worker)	120	277
Technical facilities available to labour in industry (fixed assets per worker)	131	258

The Seven-Year Plan provides for the building of large thermal power stations and district power stations using local fuels. The construction of large power stations is done so as to solve comprehensively problems of the power industry, agriculture, transport, irrigation, to create the conditions for the remaking of nature and to set up huge power systems combined into a single high-voltage country-wide network. The plans provide for the even and rational location of the power industry, taking into account the development of the Union republics and economic areas and the country's defence needs.

The establishment of proper proportions between the expansion of industrial production and the development of the entire economy and the growth of power capacity by areas is an exceptionally important task of planning agencies. As a rule, the increase in power capacity should run ahead of the growth of productive capacity in all branches which consume electric power, especially in industries requiring much power. The Seven-Year Plan provides for expanding the capacity of turbine electric stations by 58-60 million kw; generation of electricity is to rise 120 per cent in seven years, while industrial production is to grow 80 per cent.

To establish proportionality between the growth of capacity of power stations and that of separate industries, general indices are used, such as the power capacity needed per 1,000 million rubles of increase in industrial output. Detailed balance calculations are also made for branches and consumers on the basis of definite norms of consumption for each kind of power-consuming product. Electric power balances are drawn up for the country as a whole and also for the Union republics and separate power systems, with attention being paid to the need to set up power capacity reserves.

The plan for the production of electric power in a republic is based on a calculation of requirements in electric power to meet the plan of industrial output, construc-

tion, electrification of the railways, agriculture and other branches of the national economy and also the household and other needs of the population.

Special attention is paid to problems of the integrated economic development of areas in connection with the establishment of single huge power systems in the European part of the U.S.S.R. and Central Siberia, which open up unusual prospects for the development of all branches of the economy in the eastern areas of the country. The new power systems now being created serve as the backbone for new economic complexes and the reconstruction of old ones, for the over-all electrification of agriculture and the railways and also other branches of the economy. Hence, it is extremely important for planning agencies to dovetail, in respect of time, the development of electric power consumers and the commissioning of electric stations, and to ensure the faster growth of electric power production and the establishment of the necessary power capacity reserves. Otherwise a "freezing" of industrial productive capacity may occur.

Analysis of the location of industry. An analysis of the location of new industrial enterprises and the achieved level of production in the Union republics, economic geographical and economic administration areas is of exceptional importance for fixing proportions and trends in the development of different industries.

Data of this analysis usually serve as a starting point for working out the directions of capital investments for the Union republics and economic areas, for establishing the most rational production ties in Soviet industry between republics and between areas.

The principles of the rational geographical distribution of the productive forces in socialist society have been elaborated in the works of the classics of Marxism-Leninism. Frederick Engels pointed out in *Anti-Dühring* that "only a society which makes it possible for its productive forces to dovetail harmoniously into each other on the basis of

one single vast plan can allow industry to be distributed over a whole country in a way best adapted to its own development, and to the maintenance and development of the other elements of production”*.

Under socialism, the location of production is done in a planned way to raise the productivity of social labour, strengthen the might of the socialist state and advance the living standard of the people.

The principles of the rational location of the productive forces stem from the requirements of the basic economic law of socialism and the law of planned proportionate development of the national economy. They require the bringing of industry closer to the sources of raw materials and the consuming areas, the integrated development of economic geographical areas, with account of their specific features; they require the proper dovetailing of various branches of production and the fullest utilisation of local raw material resources, the economic and cultural advance of the republics, reduction of irrational and excessively long unjustified freight carriage by rail and water transport.

Making use of the objective possibility of developing the productive forces at high rates and locating industry in conformity with these principles, the Soviet Union has radically changed the location of production inherited from capitalism. The powerful mineral raw material resources of the Soviet Union, which are constantly growing and ensure industrial progress over a long period, facilitate the successful development of socialist industry and its location over the entire territory of the country.

The share of economic areas and Union republics in the country's total industrial output and also the growth of

* F. Engels, *Anti-Dühring*, Moscow 1959, p. 409.

their labour resources are used as indices of the location of industry.

In the eastern areas industrial production, especially of iron and steel, has been greatly extended, accounting now for nearly 50 per cent of the total output of the Soviet Union. But as a result of shortcomings in planning, some industries have been incorrectly located in the eastern areas. The level of production of rolled ferrous metals lags behind requirements, the engineering industry is developing slowly, the capacity of oil refineries, of the building materials and woodworking industries is inadequate.

Production and consumption of industrial goods in the Union republics and economic areas are also analysed in studying the location of industry. For these purposes, in addition to data about the level of industrial production in a republic, data are prepared about deliveries by enterprises of the republic to other enterprises.

An analysis of the share of Union republics in the supply and consumption of certain industrial products (including supply and consumption within the republic) may be made in the following way:

Table 24

Share of the Union Republics in the Supply and Consumption of Rolled Ferrous Metals, Coal and Cement in 1956 (Percentage)

	Rolled ferrous metals		Coal		Cement	
	Supply	Consumption	Supply	Consumption	Supply	Consumption
Total for the U.S.S.R.	100	100	100	100	100	100
of which:						
Russian Federation	56.0	63.4	58.3	66.5	64.8	63.9
Ukrainian S.S.R.	40.1	26.9	32.9	24.3	19.4	17.5
Byelorussian S.S.R.	0.1	1.5	—	1.0	1.9	2.2
Uzbek S.S.R.	0.4	0.9	0.7	1.2	1.7	2.3

(Continued)

	Rolled ferrous metals		Coal		Cement	
	Supply	Consumption	Supply	Consumption	Supply	Consumption
Kazakh S.S.R.	0.7	1.6	6.6	4.0	2.2	5.1
Georgian S.S.R.	1.8	1.3	0.6	0.8	3.5	1.9
Azerbaijan S.S.R.	0.3	1.1	—	0.1	2.5	1.6
Lithuanian S.S.R.	—	0.4	—	0.3	1.1	0.9
Moldavian S.S.R.	—	0.2	—	0.2	—	0.5
Latvian S.S.R.	0.3	0.6	—	0.5	1.4	1.0
Kirghiz S.S.R.	—	0.2	0.8	0.3	0.1	0.5
Tajik S.S.R.	—	0.1	0.2	0.2	0.1	0.6
Armenian S.S.R.	—	0.3	—	0.2	0.8	0.9
Turkmen S.S.R.	—	0.1	—	0.1	0.2	0.6
Estonian S.S.R.	—	0.3	—	0.1	0.3	0.5

The iron and steel, fuel, power and cement industries are being developed at a fast pace in the Uzbek, Kirghiz, Tajik, Turkmen and Kazakh Union republics under the Seven-Year Plan.

Inter-republican economic ties for each Union republic are analysed with the help of data drawn up according to the following lay-out:

Goods	Year	Production	Consumption	Ties between republics			Main directions of ties between areas (areas to which goods are delivered or from which goods are received)
				Deliveries	Receipts	Balance (deliveries are bigger [+] or smaller [—] than receipts)	

It is especially important to ensure proper proportions between the territorial location of the industries and the consumption of goods in economic areas and Union republics. To bring the manufacturing industry closer to the sources of raw materials and to consuming areas and also to effect the proper specialisation of economic areas with a view to more efficient use of their natural and labour resources, planning agencies are doing much work as regards the location of production, the establishment of production ties between areas and between republics and the co-ordination of the plan of production and construction with the material supply plan.

To co-ordinate production and consumption on the scale of a republic the corresponding calculations are made. We give here the outline of a balance of inter-republican co-ordinated deliveries (castings, forgings, parts and sections of machines, etc.):

Article	Unit of measurement	Plan of output in the republic	Requirements of the republic	How to cover requirements in the planned period	
				Production in the republic itself	Co-ordinated deliveries from other republics

In conformity with these calculations and with the help of the plan of inter-republican deliveries the proportions for the production of the necessary articles at enterprises of each republic are established. Similar calculations can be made by an economic council for deliveries between areas.

Delivery of lacking goods from other republics is done with the consent of the Gosplan of the U.S.S.R. A republican gosplan draws up, on instructions from the Gosplan

of the U.S.S.R., a detailed programme of co-ordinated deliveries for each item with an indication of its characteristics (size of the parts and sections, grades of steel, etc.), of the supplier plant and the consumer plant, and also a programme for producing finished articles and the norms of expenditure of materials per article.

With the help of similar calculations the proper proportions are set for the production and consumption of products allocated by way of inter-republican co-ordination.

Determination of the economic efficiency of capital investments. The question of determining the efficiency of capital investments in the national economy is one of the most burning problems of planning at the present stage. The allocation of capital investments for the different branches, the establishment of the rates of, and proportions in, the growth of separate branches and of the economy as a whole, the determination of the direction of technological development of industries, the choice of new techniques and the territorial location of enterprises in present-day conditions must be decided not only on the basis of balances of production and consumption, but also by means of calculating the efficiency of different variants of capital investments.

Owing to the absence of adequately grounded calculations of economic efficiency, ungrounded and even wrong decisions, harmful to the country, have at times been taken in planning the development of various branches. As cases in point we can cite the priority allotment of capital investments to the coal industry, while restraining the growth of the oil and gas industries which produce more economical fuel; the policy of expanding electric power production by building primarily hydroelectric stations; the underestimation of the efficiency of chemical raw material for the manufacture of consumer goods, and other problems. This situation has been changed in the Seven-Year Plan.

In the present seven-year period when capital investments in the extended reproduction of the fixed assets of industry reach a huge scale the problem of their efficient utilisation acquires exceptionally great importance. In the course of seven years approximately 14,000-15,000 million rubles will be invested in Soviet industry on the average every year, which is equivalent to 45-50 per cent of the investments made in the national economy during all the years of the pre-war five-year plans.

The efficient utilisation of state funds allotted for capital construction was posed in the decisions of the Twenty-First Congress of the C.P.S.U. as one of the most urgent tasks in planning. "The Communist Party attaches prime importance to the most effective channels of investment which will best contribute at minimum cost and in the shortest possible time to a steady expansion of productive plant and industrial output, attended by a steep rise in the productivity of labour and a drop in production costs."*

Calculation of the efficiency of capital investments should become a component part of the method of planning at all levels and should be employed at all stages of planning.

In drafting long-term national economic plans the Gosplan of the U.S.S.R. and the republican gosplans should ascertain the most efficient variants in allocating capital investments for branches of the economy, for Union republics and economic areas, should determine the efficiency of the investments in new construction and in the reconstruction of existing enterprises and establish the most rational variants for the location of industry.

Republican gosplans and economic councils should ascertain the variants which make the most efficient use of funds allotted for the integrated economic development of areas; in planning the specialisation, co-ordination and in-

* *Decisions of the Twenty-First (Extraordinary) Congress of the Communist Party of the Soviet Union, Moscow 1959, p. 102.*

tegration of enterprises and their location it is necessary to calculate variants with the highest yield of output per ruble of investments, the most efficient proportions in expanding capacity through the building of new enterprises or reconstruction of existing plants. It is also necessary to choose the best correlation in outlays for the installation of new equipment with the most advantageous periods of commissioning new capacity.

The determination of economic efficiency is of particular importance in designing organisations. The most efficient technological scheme with the best organisation of production and labour should be chosen from the various designs. At each level of planning and in the different links of the planning chain establishment of the efficiency of capital investments has its specific tasks and methods of calculations, which have not been fully elaborated as yet. But the basic principles, worked out by a scientific and technical conference on problems of determining economic efficiency and recommended by the Academy of Sciences of the U.S.S.R., can now be accepted for these purposes.

The economic efficiency of capital investments is ultimately expressed in a growth of the productivity of social labour, i.e., in a reduction of the cost of a unit of output. This index is a summary, general index of efficiency of capital investments, although under the existing price system the production costs do not reflect accurately the real expenditure of labour because the production costs do not include the surplus product for society. The economic effect can be established exactly only on the basis of a calculation of value. But since value is not calculated at present, determination of economic efficiency must be based on the cost of production index which reflects changes in the value of the output.

In setting the volume of capital investments and calculating different variants of their allocation, planning agencies should take into consideration not only the money earmarked for the planned enterprise but also the money

assigned for the development of allied branches or projects needed for the operation of the given enterprise. Account should also be taken of the money needed to increase the circulating funds.

In drawing up the balance of the national economy, the Gosplan of the U.S.S.R. and the republican gosplans measure the economic efficiency of total capital investments in the national economy by the annual increment in the physical volume of the national income achieved on the basis of these investments. In this case the coefficient of national economic efficiency is calculated; it represents the relation of the growth in the physical volume of the national income for the planned period to the capital investments which produced it. In calculating efficiency for the past period, data on the growth of the national income are compared with the magnitude of the fixed assets put into operation or the sum of capital investments which determined that growth.

Indices of comparative efficiency of capital investments should be used in planning and designing agencies. Among these are: cost of production, capital investments per unit of output and also the recoupment period of the capital investments. To choose the most advisable variant the capital investments per unit of output and the recoupment period of the additional capital investments are compared with the standard rates of investments per unit of output and standard recoupment periods.

A standard recoupment period of investments in industry of from seven to ten years is recommended by the Academy of Sciences of the U.S.S.R. The ten-year period is more admissible for branches requiring large capital investments, for example power stations, the metallurgical, chemical and oil-extracting industries, while the seven-year period is recommended for the engineering industry. In industries with a low organic composition of assets shorter recoupment periods may be established.

To determine the recoupment period or the coefficient of comparative efficiency of capital investments it is advisable to use the following formula:

$$\frac{K_1 - K_2}{C_2 - C_1} = T,$$

where K_1 and K_2 are the capital investments in the compared variants;

C_1 and C_2 are the cost of production of the annual output under these variants;

T is the recoupment period.

The optimal variant of economic efficiency is the one of *absolute* efficiency, the variant which gives simultaneously a reduction of capital investments per unit of output, shorter construction periods, the relatively lowest cost of production and, consequently, the shortest recoupment period.

In allotting capital investments for industries it is necessary to use the coefficient of relative efficiency in deciding how to achieve the needed level of production with the least outlays of labour. This is extremely important in cases when different industries produce similar or interchangeable items, for example fuel (in the coal, oil and gas industries), electric power (at thermal and hydroelectric stations), etc.

The Seven-Year Plan calls for the priority building of thermal power stations working on cheap coal, natural gas and fuel oil. The main type of plant is a steam power station with a capacity of 1,000,000 kw and more, and with units of up to 300,000 kw. The capacity of units will be brought up to 600,000 kw by 1965.

Calculation of the economic efficiency of such large thermal power stations shows that the cost of generating electric power at such stations is sharply cut. Thus, the cost of producing a kilowatt-hour at thermal power stations using open-cast coal mined in East Siberia and Ka-

zakhstan will amount to 0.16-0.2 kopek; when natural gas is used the cost will be 0.15-0.16 kopek.

Thus, the cost of production at thermal power stations is approximately the same as at hydroelectric power stations. Since the cost of building hydroelectric stations is several times greater than that of thermal power-stations, this means that the recoupment period of the capital investments at thermal power stations is much smaller and, moreover, the period required for building them is shorter. Consequently, in present-day conditions thermal power stations are more advantageous than hydropower plants because they make it possible to gain time and to utilise more economically the funds allotted for capital construction in the seven-year period. In line with this, the Seven-Year Plan provides for a change in the correlation of capital investments in the building of thermal and hydropower stations by increasing investments in the former and reducing them in the latter.

It is pointed out in the control figures that priority building of thermal power stations will make it possible to increase the total power capacity to be commissioned in the seven-year period by approximately 10 million kw. This is equivalent to five such plants as the Lenin Hydroelectric Station on the Volga. Had the previous proportion between capital investments in thermal and hydropower stations been preserved it would have been necessary either to reduce the volume of capacity to be commissioned or to increase capital investments by more than 2,000 million rubles.

Thus, the policy of priority building of thermal electric stations and the altering of the fuel balance represent one of the major changes in national economic proportions, which above all characterises a more efficient use of capital investments.

5. Methods of Establishing the Requirements in Industrial Output

The methods of co-ordinating the development of various industries are based on balance calculations of the production and consumption of goods. Balances (material, financial, labour) are the main instruments of co-ordinating plans and establishing proper proportions. Balances must not be identified with the production plan; they are merely a means of substantiating the plan, and not the plan itself.

Material balances of separate goods are most widely used in the practice of national economic planning. Material balances, drawn up at present by the Gosplan of the U.S.S.R. and its central boards for inter-republican ties, count about 6,000 kinds of goods making up an assortment of 11,000 items. A large number of balances are also drawn up by the republican gosplans and economic councils.

Material balances of industrial goods utilised above all in planning work for the establishment of proportions are divided into two groups:

first, balances of means of production;

second, balances of articles of consumption.

A decisive part in establishing proportions for the development of industry is played by material balances of the first group, which includes:

balances of industrial raw materials and supplies—ores, pig iron, steel, rolled ferrous metals, rolled non-ferrous metals, soda, sulphuric acid and other chemicals, etc.;

balances of fuel and electric power—coal, peat, firewood, oil products, electric power;

balances of agricultural raw materials—grain, cotton, flax, hides and skins, wool, sugar beet, etc.;

balances of building materials—cement, slate, felt roofing, window glass, etc.;

balances of equipment—metal-cutting machine-tools, forging and pressing equipment, steam boilers, turbines,

motors, motor vehicles, tractors, agricultural machinery, rail waggon, pumps, compressors, building machinery, etc.

Balances of raw material supplies, fuel and electric power help set the proportions in the reproduction of the working funds in industry, and balances of building materials and equipment, in the reproduction of the fixed assets.

The second group includes balances of such articles of consumption as foodstuffs—flour, groats, meat, sausage, tinned goods, fish, butter, vegetable oil, sugar, confectionery products, etc.

The main aim of a material balance is to compare and co-ordinate the possible resources the state possesses with the general requirements in the given item. Material balances make it possible to achieve correspondence between the available resources and their allocation. This is what has promoted this method as the main means of co-ordinating plans of separate branches of industry.

With the help of material balances and balance calculations the Gosplan of the U.S.S.R. and its agencies check the correlations between the requirements in goods of all the republics and the available resources—raw and other materials, fuel, equipment; reveal disproportions in their production; establish the sources for increasing output to satisfy the needs of the economy and the population, above all by expanding production; they also outline measures for a more rational utilisation of material resources. Plans of inter-republican deliveries and deliveries for all-Union needs are drawn up on the basis of the material balances.

Balances of industrial goods are drawn up not only for branches but also for republics and economic areas. This makes it possible to establish proper proportions between areas in the production of goods, to envisage measures for the maximum expansion of the output of goods in short supply by utilising local resources of raw and other materials and fuel, and also to take measures for eliminating cross-hauls, excessively long and irrational

hauls of goods. Balances are also important instruments for the proper planning of the location of industrial production in the various economic areas.

The reorganisation of planning has put forward the task of raising the scientific level of the synthesising work in planning.

Balances of separate products given in physical units of measurement, not being combined in a single system of summary balances, are helpful in solving rather limited problems of co-ordination between branches. At the same time the balance of the entire national economy of the U.S.S.R. also does not solve this problem fully because it is drawn up only for the most general, synthetic indicators and cannot be used for analysing the figures of production and distribution of goods measured in particular, and different, physical units. That is why the balance of the national economy gives merely a most general idea of national economic proportions and does not furnish a summary of the concrete ties between branches.

Therefore in present conditions of planning inter-republican ties a need has arisen for the further improvement of the methods of balance calculation of production ties by compiling *summary material balances*, given in value or in physical terms, in order to co-ordinate the development of industry both on the scale of branches and of areas and republics. One of the new directions in the further improvement of the balance method of planning is to work out, with the help of electronic computers, a so-called summary input-output balance. It furnishes a very efficient way of balancing production and consumption of all interconnected branches of industry and the national economy.

Let us examine some questions of method in drawing up balances of industrial goods and establishing with their help the proportions in the production and consumption of these products.

The first variants for the calculation of material balances are prepared when working out the control figures and national economic plans. The initial stage in the elaboration of balances is to calculate the requirements in goods, which are compared, by way of the first approximation, with the production potentialities of the national economy and with the balance calculations of productive capacity. This is how the possible increase in output for the planned period is established.

The requirements in goods are calculated for concrete consumers (for enterprises, for branches of an economic administration area, for Union republics and for the national economy as a whole). Requirements include needs of production and maintenance, needs of capital construction, the need to set up regular state reserves and current stocks of enterprises, and also needs for export. Special calculations are made of the requirements in industrial goods for sale to the population (raw and other materials and finished articles).

It is a primary task of planning agencies to make a correct appraisal of requirements and, in conformity with them, to set the production programme in the plan and to allocate the productive resources in the right proportion.

Industry itself is the biggest consumer of industrial goods. In the allocation of industrial goods special attention is given to fully satisfying the needs of key industries—chemical, metallurgical, engineering, fuel and power.

The established requirements in goods are the basis for drawing up production plans. To satisfy the requirements of the economy during the period of the plan, provision is made for the maximum possible expansion of production, above all of goods in short supply, and also of new, more economical articles, machines and equipment.

In determining the requirements in definite types of raw and other materials, fuel and electric power, account is taken of the norms of their expenditure and the produc-

tion programme of the consuming branches. On the basis of progressive norms of consumption the plans ensure the efficient and economical use of raw and other materials and also a maximum reduction of their loss and waste in the process of production.

In drawing up material balances to determine the basic proportions in the development of the economy, planning agencies calculate first of all the requirements in key industrial items (fuel, metal, equipment, etc.).

The *balance of metals* thus plays a major part in setting the basic national economic proportions in the state plan, especially the proportions in the production programme of the engineering industry, and also in establishing the volume of capital construction.

To fix the proportions in the production and consumption of rolled ferrous metal calculations of requirements are made and balances are drawn up for the varieties of metal: rails, beams, channels, thin sheet steel, wire rods, tin plate, pipes, steel and iron castings, cables, etc.

The summary balance of rolled ferrous stock is given in Table 25, which shows the proportions in the production and consumption in the second half of the 1950s.

In the metal resources of the U.S.S.R. home production accounts for over 90 per cent. The bulk (three-quarters) of the available metal resources go for needs of production and maintenance, and approximately one-sixth, for capital construction.

With the help of the metal balance proportions are established in the national economic plan for the use of metal in different branches in conformity with the economic and political tasks of the plan; metal is allocated in the plan to consumers in various branches and republics. It is exceedingly important to fix the corresponding proportions in output within the iron and steel industry itself, inasmuch as steel production depends on the pig iron output, the production of rolled stock on the steel melt, etc.

Table 25

Summary Balance of Rolled Ferrous Metal
(Approximate Data)

<i>Resources</i>			<i>Distribution</i>		
	Million tons	Share in total resources, per-centage		Million tons	Share in consumption, per-centage
Resources, total	42.0	100.0	Consumption, total	42.0	100.0
Including production	40.0	95.2	Including production and maintenance needs . .	31.0	73.8
of which:			of which:		
Russian Federation	22.5	53.6	Russian Federation	17.0	40.0
Ukrainian S.S.R., etc.	16.0	38.1	Ukrainian S.S.R., etc.	8.0	19.0
Imports and other receipts	0.7	1.7	Construction	6.0	14.3
Increase of stocks in hands of suppliers	1.1	2.6	Quantity allotted for the market	1.0	2.4
Other receipts	0.2	0.5	Exports	1.7	4.0
Stocks in hands of suppliers	1.1	—	Reserve	2.3	5.5
			Stocks in hands of consumers	—	—

For rough calculations the following approximate relationship in the production of pig iron, steel and rolled stock can be used:

	Unit of measurement	Period under review	Planned period
Production of pig iron per 1,000 tons of steel	tons		
Production of steel per 1,000 tons of rolled stock	"		
Production of coke per 1,000 tons of pig iron	"		

In the analysis of such production proportions, thorough consideration must be given to technical improvements in production processes and the resultant changes in the norms of expenditure of raw and other material, fuel, electric power, etc.

To establish more concretely production proportions within the iron and steel industry when drafting its plan, balances of pig iron and balances of steel are prepared separately, in which steel production is compared with the steel requirements for rolled stock, forgings and castings; a balance of scrap for various sources of supply and the expenditure of different types of scrap is drawn up, as well as balances of iron and manganese ores and other balances.

The steel balance is drawn up according to the following approximate outline:

1. Plan of the production of rolled stock, of forgings from ingots and of castings.
2. Norm of expenditure of steel per ton of rolled stock, forgings and castings.
3. Total requirements in steel ingots and billets including:
for rolling, for casting, for charging,
for changes in stocks (ingots, billets) (+, —).
4. Plan of steel production.
5. Surplus of steel.
6. Deficit—total
including:
ingots, billets for rolling.

Steel balances are drawn up for each iron and steel works and all the engineering and metal-working plants which consume steel, for each economic administration area and Union republic. This makes it possible to prepare a general state balance and establish the requirements and proportions in the production of steel and rolled stock for the U.S.S.R. as a whole.

The steel balance drawn up by a republican gosplan, with calculations for each plant, is the basic document used by the Gosplan of the U.S.S.R. for compiling the plan of inter-republican steel deliveries.

The *equipment balance* holds a very important place in determining the rates and proportions of development of both industry itself and the other branches of the economy. The production plan of the engineering industry is fixed on the basis of calculations of requirements in equipment for the respective branches and the possibilities of satisfying them, taking into consideration exports and imports.

Equipment can be used for the building of new plants, the expansion or technical reconstruction of operating enterprises of industry and transport, in agriculture, for the replacement of worn-out or obsolete equipment. It can also go to complement machines and units produced at other works.

In drawing up economic plans a whole system of calculations and balances of equipment is elaborated. The calculation of requirements in different types of machinery and equipment has its specific features depending on the designation of machinery. For new construction the requirements in machinery and equipment are ascertained on the basis of the technical designs of the plants under construction.

The requirements in metallurgical equipment, turbines, generators, medium and large boilers, transformers, chemical, oil and mining equipment, spindles, looms, equipment for the food and building materials industries, and also various types of subsidiary equipment, are established on the basis of assignments for the bringing into operation of new capacity in definite periods, or of separate projects included in the draft plan. Account is taken of the stock of equipment manufactured but not yet in operation at enterprises and construction sites and also of the need for creating a reserve in construction for separate industries and of ensuring maintenance needs.

The requirements in metal-cutting machine-tools, forging equipment, presses, casting machinery and similar equipment are established on the basis of the volume of output of the engineering industry, calculations of the degree of utilisation of machine-tools, and the average annual productivity of one machine-tool or machine for various groups and types of machines.

Requirements in equipment (for blast furnaces, steel melting and rolling mills) for new iron and steel works are determined in plans on the basis of calculations per one million tons of metal. Thus, in calculations for 1959-65 the following approximate standards of requirements in equipment for the production of one million tons of metal were taken: blast-furnace equipment, 6,500-7,700 tons; steel-melting equipment, 7,000-8,000 tons; rolling-mill equipment, 35,000-36,000 tons.

Requirements in lorries, autobuses, rail waggons, tractors, drilling, textile and peat equipment and other subsidiary machines are determined on the basis of the standards of productivity of the machinery and the corresponding volume of work stipulated in the draft plans for separate branches of industry, agriculture and construction, minus the available machinery and equipment.

Requirements in construction and road-building machines (excavators, bulldozers, graders, autograders, etc.) are expressed in the quotient resulting from the division of the fixed volume of earth work, baring, mining, road and other jobs by the approved annual standard of productivity per machine.

To determine the need in tractors for spring field work, account is taken of the volume of spring ploughing, early spring harrowing of winter crops, sowing of grains and of other jobs. The total volume of tractor work on the early crops is figured in terms of ploughing. The norm of daily productivity per tractor (in terms of 15-hp units) is set in hectares and the number of days a tractor has to work in sowing early spring crops is estimated. Consequently, the

production of agricultural machinery is planned on the basis of the established requirements in machines. Planning agencies proceed from the existing standards of seasonal productivity, the volume of work by various types of machines, taking into consideration both the available machinery and the need to replace worn-out machines.

For some types of equipment the requirement is calculated not in physical but in value terms. Thus, the requirement in equipment for a number of branches of the light industry is set in millions of rubles, in conformity with the growth of production and with account taken of better use of available equipment.

The requirements in spare parts for motor vehicles, tractors, farm machinery, textile and knitting machines, for equipment of the food and other industries are ascertained in conformity with the number of machines in operation on the basis of the norms of expenditure of spare parts needed for maintaining the machines in working order.

In determining the requirements in various types of machinery, the need to replace technically obsolete and worn-out machines is specially taken into account. Planning agencies are guided by the standards set for writing-off annually one or other type of equipment or by the established practices in the renewal of machines.

Together with determining the need for finished machinery and equipment, planning agencies also calculate the requirements in sections and parts of machines, steel and iron castings, forgings and stampings and other parts needed for the manufacture of large machinery and equipment at leading plants. The requests of Union republics for co-ordinated deliveries needed for the manufacture of finished machines serve as the basis for establishing the requirements in these articles.

In ascertaining the requirements for individual products of the engineering industry special consideration is given to:

the all-Union needs in equipment, which include

needs of the all-Union ministries, state reserves and current reserves;

export needs in conformity with available export plans, and also the expected imports;

the demand of the population for certain durable goods (motorcars, motorcycles, bicycles, TV and wireless sets, clocks and watches, refrigerators, washing machines, etc.) and spare parts for them.

In drawing up the plan for the shipbuilding industry account is taken of the specialisation of shipyards, proper production co-ordination among them and with other enterprises.

For the range of goods not included in the all-Union or republican plans understanding on co-ordinated deliveries is reached by the consuming economic administration area directly with the supplying economic administration area and formalised by an agreement. On the basis of these agreements the supplying economic administration areas issue orders to their plants and inform the consuming economic administration areas accordingly.

Plans of the engineering and metal-working industries are fixed with account of the productive capacity and material resources, above all of ferrous and non-ferrous metals, industrial rubber products and chemicals.

The proportions in the manufacture of different models of machinery and equipment are fixed on the basis of the possibilities of ensuring the volume of output with rolled stock of a definite assortment.

The total output of the engineering industry is calculated not only in physical terms but also in terms of money. This index is needed to calculate the conformity of the industry's development programme with the funds allotted for construction, the acquisition of equipment under the capital construction plan, etc. The drawing up of a balance of equipment in terms of money is the concluding stage in determining the requirements in equipment and work-

ing out the production programme of the engineering industry.

The methods of calculating the requirements in the output of the light and food industries have their specific features. The requirements in consumer goods are determined by establishing the purchasing power of the population, the demand for personal consumption and the requirements in these goods for other needs during the planned period. In calculating the requirements in articles of consumption it is necessary to proceed from scientifically grounded norms of consumption of different groups of the population.

Balances are prepared for principal goods, including fabrics, knit goods and hosiery, footwear, furniture, soap and also foods (meat, butter, sugar, fish, etc.) and agricultural raw materials (wool and cotton, sugar beet, etc.).

The increase in the output of the light and food industries largely depends on the raw materials obtained from agriculture or from other sources. That is why the production programme of these industries must be thoroughly co-ordinated with the plan for the procurement of agricultural raw materials and the supply of chemical raw materials for the manufacture of consumer goods. For these purposes balances are drawn up of cotton, flax, chemical fibres, wool, hides and skins, etc.

The total requirements in food and non-food goods for sale to the population, calculated in terms of money, are compared with the balance of the money incomes and expenditure of the population, after which the level of production is finally set. It is the task of planning agencies to establish proper proportions between the money incomes of the population and the supply of goods allocated to meet these incomes.

Thus, the initial material for drawing up an industrial production plan is the calculation of the requirements of the national economy. Simultaneously calculations to justify the production programme are made.

6. Methods of the Technical and Economic Substantiation of the Production Programme for Industries

Planning agencies provide grounds for the programme of output of each item. For this purpose they ascertain the productive capacity of enterprises for various types of goods and the new capacity to be put into operation, establish the conditions and degree of utilisation of capacity in the planned period on the basis of the accepted technical and economic indices of performance; they elaborate progressive norms for the utilisation of equipment, the expenditure of raw and other materials, fuel and power; establish the norms of yield of finished output from raw materials, and other similar norms; draw up a plan for the introduction of new machinery and advanced technological processes and also ascertain their economic efficiency.

To provide grounds for a production programme planning agencies also draw up a plan for the specialisation of enterprises and shops, a plan of co-ordinated deliveries for Union republics and economic administration areas; calculate the requirements in raw and other materials, fuel and equipment and circulating funds for the fulfilment of the production plan; establish the requirements in labour for the fulfilment of the production programme and capital construction in industry; draw up a balance of labour and a plan of training personnel; set the targets for the growth of labour productivity, the further reduction of production costs and an increase of accumulations.

The working out of these sections of the plan is closely intertwined because all of them are interdependent. The degree of utilisation of capacity, for example, depends on the contemplated degree of utilisation of the equipment, which, in turn, depends on the assortment of the output, the properties of the raw material and the introduction of new technology; productivity of labour depends on the degree of mechanisation and automation, etc.

The production programme in physical terms is corroborated by corresponding progressive planned norms. In planning the development of industry and the entire national economy the following technical and economic norms are employed:

norms for the utilisation of the instruments of labour, which include norms for the use of equipment, structures, machinery and tools;

norms for the consumption of objects of labour—raw materials, supplies, fuel, electric power—per unit of output or per unit of work done;

norms of expenditure of working time per unit of output (or per unit of work), which is the inverse expression of the labour productivity index, that is, the output per worker; this group also includes the annual budget of working time and piece-work rates; the norms for the organisation of production processes, which category includes norms of the duration of the production cycle, of balances of uncompleted production and norms for stocks of raw and other materials and fuel.

In addition to these norms a number of other norms regulating the use of material, labour and financial resources are also employed in planning.

Technical and economic norms underlie the calculations of all assignments of the plan for production, construction, supply, labour productivity and production costs. A study is made of the actual norms. These are grouped and on the basis of economic calculations average progressive norms are worked out.

An important part in the calculation of the production programme is played by the norms of utilisation of equipment, which serve as a basis for estimating the possible output per unit of equipment in a definite period of time.

Improved use of equipment and raw materials represents a large reserve for expanding output. The systematic introduction of new equipment and advanced technological processes and organisation of labour enable So-

viet industry constantly to improve the utilisation of equipment. This is seen from data in Table 26.

Table 26

	1940	1958	1959
Coefficient of blast-furnace operation—useful volume (cu m) needed for the production of one ton of pig iron daily (nominal working time)	1.19	0.78	0.77
Average daily production of steel, tons per sq m of hearth of open-hearth furnaces, calendar working time	4.24	7.21	7.48
Productivity of spinning and weaving equipment:			
a) Cotton textile industry:			
Productivity of 1,000 spindles per hour, kilo-numbers* . . .	538	679	695
Productivity of a loom per hour, weft threads	9,729	10,984	11,094
b) Woollen industry:			
Productivity of a loom per hour, weft threads	4,081	5,339	5,433
c) Silk industry:			
Productivity of a loom per hour, metres	2.1	2.91	2.91

* Productivity in spinning is measured in kilo-numbers, the product of multiplying the output of a spindle or spinning machine in kilogrammes by the number of the yarn (the thinner the yarn the bigger the number).—Ed.

In drawing up plans it is necessary to take into account the further improvement of technical and economic indices of performance as a basis for better utilisation of available capacity and to plan production without additional capital investments.

The decisions of the Twenty-First Congress of the C.P.S.U. emphasise the need to bring to light more fully the internal reserves and possibilities of enterprises for

increasing production with existing capacity, constantly to improve the technology and organisation of production, improve the utilisation of equipment, of raw and other materials.

A calculation of productive capacity is made to determine the possible volume of industrial output.

The productive capacity of an existing enterprise or an industry is the maximum possible annual output of goods of a specified nomenclature and assortment. Capacity is calculated according to progressive technical norms which can be achieved with the full utilisation of all the equipment and production floor space.

The productive capacity of existing enterprises is not a constant magnitude. It changes depending on the conditions affecting the utilisation of equipment: the introduction of new technology, integration and specialisation of production, the skill and initiative of the workers, the competence of the management, the advanced technological processes applied, the organisation of labour and also the quality of the raw material and semi-manufactures which are being processed.

The capacity of an enterprise under construction is calculated on the basis of the technical design which gives both the total summary capacity of the enterprise expressed in the annual or daily production of goods and the designed norms of productivity of separate types of equipment.

Simultaneously with the calculation of the production programme, the necessary organisational and technical measures are elaborated to improve the technology of production, renew equipment, extend co-ordination within enterprises, to make more rational use of available production floor space, etc.

Co-ordination within an enterprise, between enterprises in a given industry and between industries, and also precise specialisation of enterprises contribute to the fuller utilisation of capacity and the elimination of bottlenecks.

In estimating the capacity of an industry (in an economic administration area) account is taken of the increase in the total capacity of each enterprise, especially from greater specialisation and co-ordination of production.

The coefficient of utilisation of the productive capacity of an enterprise is considerably affected by the composition and the quality of the raw materials processed. In the non-ferrous metals industry, for example, the production of metal depends above all on the content of metal in the ore. In the woollen industry the productivity of the spinning and weaving machines depends on the preparation of the wool for spinning and the yarn for weaving.

The nomenclature and assortment of goods produced by an enterprise essentially influence the productive capacity of the equipment. Calculation of productive capacity is made for the entire nomenclature. The capacity of an engineering plant which manufactures diverse machines is measured by the optimal assortment, i.e., an assortment which ensures the fullest loading up of the equipment, the utmost utilisation of its capacity. On the other hand, in establishing the optimal assortment it is necessary to proceed not only from the production possibilities, but also to take into account the requirements of the national economy in a definite assortment of goods.

The optimal assortment must not be established in isolation from the requirements of the national economy. Economists who advise to calculate capacity only according to an assortment of goods ensuring the utmost utilisation of the available equipment, assign the decisive part not to the requirements of society but to the structure of the equipment, which is incorrect. The interests of the national economy require only that assortment of goods which most fully satisfies the needs of society while utilising to the maximum the fixed assets during the planned period.

A production programme of industry is drawn up with the help of a *balance of productive capacity*. The balance

makes it possible to determine the need for new capacity which must be commissioned over a number of years to ensure the contemplated expansion of output. This is how the long-term requirements in capital investments for expanding capacity in a given industry are established.

A balance of productive capacity is drawn up by each enterprise, economic council and republican gosplan, and a summary balance of capacity for the production of the most important goods, by the Gosplan of the U.S.S.R.

A balance of capacity characterises the capacity in operation at the beginning of the planned period, the capacity to be dismantled and the capacity to be added during this period, the average annual capacity and the capacity at the end of the planned period. This enables planning agencies to reveal a shortage or surplus (reserve) of capacity and, on the basis of the calculated production plan, to establish the index of capacity utilisation.

In working out the production programme, the balance of capacity and the calculation of its use are drawn up for a nomenclature of goods established in advance.

The main purpose of the calculation is to compare the average annual capacity, brought out by the balance, with the volume of output in the production programme, and to calculate the index of capacity utilisation. In so doing, it is necessary to single out the assignments for the utilisation of the capacity commissioned at new plants and the quantity of goods produced by them.

Calculations of productive capacity are employed not only for substantiating the contemplated production programme, but also for planning the volume of capital investments, elaborating measures to eliminate possible disproportions in the development of separate industries and demonstrating the economic advisability of specialisation and co-ordination of production.

In drawing up the industrial production plan, targets are set for the capital repair of the main types of equipment. These include the total amount of money to be spent for

repairs and also a schedule of repairing the most important units and installations.

As pointed out earlier, the production programme of each industry must be grounded and provided with productive capacity, raw and other materials, fuel and power. The supply of raw materials plays a particularly important part in the manufacturing industries. Of great significance for the mining industry is the provision of supplies (propping timber, fuel, etc.). The full supply of fuel and power and timely transportation of raw materials and finished goods are equally important for all industries.

The requirements of enterprises in raw and other materials and fuel, as a rule, are ascertained by the method of so-called direct calculation, under which the general requirements are established by multiplying the plan of output by the norm of expenditure per unit of output. In a number of branches more approximate norms of expenditure are used (per 100 rubles of output, etc.). The thorough grounding of plans requires further improvement of the system of technical and economic norms of material expenditure with account of advances in technology.

The economical expenditure of raw and other materials, fuel and electric power is an important source for expanding industrial production. This saving is achieved first of all through reducing the norms of expenditure per unit of output. For example, the norms of expenditure of hot-rolled ferrous metals in production were cut by more than 25 per cent between 1948 and 1956; copper, by 20 per cent on the average; lead, by 41 per cent, and aluminium, by 25 per cent.

At the present scale of production each one per cent of reduction in the norms of expenditure yields a tremendous saving. Suffice it to say that in 1959 a reduction in the norms of expenditure by 1 per cent of rolled ferrous metal meant a saving of approximately 460,000 tons; of steel, 590,000 tons; coal, over 5,000,000 tons; electric power, 2,600 million kwh; cement, about 400,000 tons, etc.

Measures for the introduction of new technology are a necessary element in calculating the programme of industry and construction.

The plan for the introduction of new technology in industry is drawn up for each enterprise and economic administration area. The summary long-term plan for the entire country is drafted by the respective agencies of the Council of Ministers of the U.S.S.R. on the basis of plans approved by the Councils of Ministers of the Union republics, the plans of the Academy of Sciences of the U.S.S.R. and other scientific institutions. It is then submitted for finalising to the Gosplan of the U.S.S.R.

The draft plan for the development and introduction of new technology must be dovetailed with the sections of the plan that ensure the accomplishment of the contemplated measures, namely, the plans of production and capital investments, the financial plan and the material supply plan. At the same time it must be strictly co-ordinated with the sections of the plan reflecting the ultimate economic efficiency of the new technology, namely, the labour plan as regards the targets for the growth of labour productivity, the plan for the commissioning of new capacity, and also with the production cost plan.

The plan for the development and introduction of new technology consists of the following main sections:

- 1) development of new, most important machines, equipment, precision instruments and materials;

- 2) mechanisation and automation of production processes and the introduction of advanced technological processes;

- 3) major research and experimental work.

In line with these main sections planning agencies prepare:

a plan for the manufacture of new important machines, equipment, precision instruments and materials. This plan is examined, together with the general nomenclature of

the economic plan, and is approved in the form of assignments for the preparation of technical specifications, the manufacture of models and the mastery of their manufacture; a plan for the improvement of types and designs of machines is also included in this category;

basic assignments for the mechanisation and automation of production processes and the introduction of advanced technological processes. Measures for over-all mechanisation must first of all cover the most laborious and arduous jobs in industry, especially in sections where hand labour is still used. It is necessary to automate above all mass production processes where the further growth of labour productivity can be achieved through the replacement of separate machines and equipment by automatic machines and automatic systems of machines, and also in sections where automation is dictated by the specific features of the technological process and the need to improve working conditions and safety;

the plan of major research and experimental work. The subjects, and dates for completion, of research work are dovetailed with the plans for the automation of production processes, the development of new machines, equipment and precision instruments on the basis of recommendations of the Academy of Sciences of the U.S.S.R., State Research Co-ordination Committee, of all-Union and republican ministries, departments and committees;

the plan of organisational and technical measures for improving machinery and technological processes. Measures for the introduction of advanced technology are determined on the basis of the decisions adopted by the highest Party and Government bodies with regard to developing new categories and methods of production, on the basis of the results of research and experimental work, with account of the achievements of Soviet and foreign science and the best production experience;

the plan of standardisation of industrial production. It is closely tied up with the plan of new technology and

plays an important part in further extending specialisation and co-ordination of production.

In drawing up economic plans, planning agencies submit, in addition to technical characteristics of new machines, equipment and precision instruments scheduled for manufacture and introduction, data on their technical and economic advantages.

These advantages are characterised by indices of productivity, the expenditure of materials per unit of output, the labour consumed in manufacture and operation, the norms of expenditure of fuel, electric power and other supplies, the cost of production of a unit of output, improvement of working conditions, and so on. These advantages are brought out by means of a comparison with the corresponding current types and models of machines, equipment, precision instruments and materials.

It is a primary task of planning agencies in working out this section of the plan to determine the economic effect obtained by the national economy from the introduction of the new technology, including new models of machines, equipment, precision instruments, new types of raw and other materials, fuel, new technological processes and modernisation of operating equipment.

The indices of efficiency of new technology are an integral part of the targets of the economic efficiency of capital investments, inasmuch as the introduction of new technology usually involves large money outlays. The efficiency of new technology should be ascertained at all stages of designing and introduction. At the pre-designing stage it is necessary to decide in general whether it is worth while to undertake the designing of this technology; at the designing stage the extent to which the new technology is progressive and efficient is determined. In ascertaining economic efficiency, planning and economic agencies must establish and compare the effect yielded by different variants of introducing new technology for the manufacture of one and the same or similar goods in one and

the same industry, at one and the same enterprise or in different areas and at different enterprises. The object is to find the solution that best of all meets the interests of the national economy.

To decide whether new technology is acceptable or not a comparison should be made with the best available technology that ensures the highest technical and economic indices of performance, or, if necessary, with the best foreign technology.

The methods of calculating the economic efficiency of new technology have to be improved both in general and in each branch. The main indices recommended now for measuring efficiency are the increase in production, gain of time, and cut in the cost of production or cost of jobs performed with the help of the new instruments of production. In case the cost of these instruments of production rises, the additional capital investments are compared with the saving in the cost of production, and in this way the period needed for the recoupment of the outlays is established. When the chosen variant yields both lower costs and a saving in capital investments, the question of the recoupment period does not arise.

In choosing a variant it is necessary to compare its recoupment period with the standard or planned recoupment periods, which should be fixed for each branch of industry and the national economy as a whole. The annual saving on current outlays should be established on the basis of the planned cost of production and the volume of output. The saving should be figured out not for the first year; the average annual saving which could be obtained over several years as a result of the introduction of the new machine or the application of the given technical measure should be calculated.

The economic efficiency of new technology should be established by a comparison with the indices of the technology it displaces. During the introduction of measures which improve technological processes the change in the

cost of production should be established only for the items of expenditure which change as a result of the new measures.

The indices of a saving in both living and materialised labour (means of production) should be the general index of the economic efficiency of new technology. To determine the saving of living labour, the expected labour expenditure is compared with the actual expenditure in the existing equipment. In calculating the efficiency of new technology, account should also be taken of the quality of output and the improvement of working conditions.

An important place in the entire system of planning industrial production is held by *questions of planning specialisation, co-ordination and integration of production*. One of the basic tasks of planning is to improve these forms of production organisation.

Development of the social division of labour, technical progress and the establishment, on this basis, of an ever greater number of independent branches of industry and enterprises are the conditions which determine the process of specialisation.

Specialisation of social production gives rise to co-ordination, which expresses the existing production ties between separate enterprises that jointly produce complex industrial goods on the basis of a co-ordinated plan.

In drawing up an industrial production plan, special attention should be paid to the further improvement of integration of production, i.e., the linking in one enterprise of different branches which are organically interconnected.

The socialist system of economy has incomparably greater possibilities for developing specialisation and co-ordination between enterprises than under capitalism because it has no private property which disunites the producers and leads to a clash of their interests. The socialist state utilises in a planned way the division of labour to develop more rational organisational forms that pro-

mote the introduction of advanced technology, growth of labour productivity and reduction of production costs.

The wide development of interconnected forms of production organisation, such as specialisation, co-ordination and integration of production and also the concentration of production at large enterprises and the introduction of large units, is done in a planned way in the U.S.S.R. The technical and economic advantages of large enterprises and units consist in that they ensure a higher level of labour productivity and lower costs as compared with smaller enterprises and units. But it should be borne in mind that the excessive enlargement of enterprises runs counter to the task of locating industry more evenly and bringing enterprises closer to the sources of raw materials and the consuming centres. Outlays for the transportation of raw materials and the finished products of an excessively large, specialised plant may at times exceed the saving on production costs within the enterprise. The purpose of planning is to combine properly the various most rational forms of industrial production at large and small specialised plants.

The reorganisation of industrial management has created the prerequisites for improving the specialisation of enterprises on the necessary scale and for developing the most rational production ties between them. The existence of economic administration areas makes it possible rationally to combine specialisation of branches with wide co-ordination of enterprises located near each other, to utilise the technical and economic advantages of large-scale production and to locate rationally large-scale, medium and small-scale production.

The plans of the Union republics, economic administration areas and local economy should provide for the accomplishment of the following primary tasks in planning the specialisation and co-ordination of production:

- 1) proper co-ordination of production between enterprises by means of the rational allocation of the produc-

tion of semi-manufactures, sections and parts of machines between separate enterprises in such a way as to achieve the smallest outlays of labour for the production of a unit of output and its transportation to the consumer;

2) establishment of economically rational ties within an industry and between industries, within an area and between areas, taking into consideration the existing specialisation of production;

3) elimination of irrational duplication of the manufacture of the same goods at different factories, the concentration of production at large well-equipped factories; the establishment of specialised automatic production lines, automatic shops and factories, with the object of effecting the wide co-ordination of enterprises within economic areas and large industrial centres;

4) utmost specialisation in the manufacture by the most up-to-date methods of unified and standardised items—parts, sections and blanks—in order to satisfy the needs of industrial enterprises of an area and also of other areas and republics;

5) organisation in economic areas of specialised shops and enterprises for the production of stampings, castings, forgings, electrodes, the mass production of parts from rubber, plastics and wood, of nuts, bolts and other items needed in large quantities by industry, and also the working out of assignments for various technological operations (assembly, mechanical and heat treating).

The indices used in drafting plans and analysing the level achieved in specialisation and co-ordination are:

the share of goods produced by a specialised branch or works in the gross output of the given product of the branch or works. To characterise this index the following data may be used: the number of models, sorts and kinds of goods and parts produced at specialised works; the share of unified parts, details and sections in the output of enterprises; the number of enterprises participating in co-ordinated production; the number of specialised shops

and equipment, sections and production lines at enterprises and in branches of industry.

In addition to these indices, planning agencies calculate:
the share of the main product in the over-all output of a branch or of a particular enterprise;

the share of bought articles or semi-manufactures in the over-all value of the goods produced by enterprises;

the share of deliveries of different goods within an area and between areas;

the share of semi-manufactures and articles received by way of co-ordination in the cost of production of the finished output.

A special calculation is made of the economic effect resulting from the introduction of specialisation and co-ordination (the effect upon the growth of labour productivity, reduction of production costs, general saving, etc.).

The categories of industrial goods for constructing the plan of co-ordinated production may be very wide. Most frequently they include large forging machines and presses, foundry equipment, electric locomotives, woodworking lathes, iron and steel castings, forgings, stampings, tools, bolts, nuts, fittings and also spare parts for automobiles, tractors, agricultural machinery, for power, mining, ore-concentration and other equipment.

Specialisation and co-ordination is reflected in the industrial production plan in physical terms. The production programme must provide for the conformity of the assortment of output of an enterprise to the specific features of its shop structure and composition of equipment. The rational allocation of assortment of goods between plants producing homogeneous output should facilitate the proper organisation and development of specialisation.

The growing requirements of the national economy and continuous technical progress make for the steady extension of the assortment of goods in all branches. On the other hand, the mass production of the main types of

goods on the basis of advanced technology requires the manufacture of technologically uniform articles at each factory. This can be achieved through the planned and rational allocation of the assortment of goods between enterprises, with due account for the technological uniformity of the articles included in the programme of each factory, through the development of unification and standardisation of articles and parts and the expansion of productive capacity in branches where it is inadequate.

The plan of co-ordinated inter-republican deliveries is drawn up on the basis of the balance of articles and parts consumed on a mass scale by industry, namely, standard cutting tools, measuring instruments, fitter's tools, bolts, nuts, electrodes, fittings, grinding balls, etc.

The primary and only criterion—advisability from the standpoint of the national economy and efficiency—should be applied in solving problems of specialisation and co-ordination. Any attempt to plan specialisation and co-ordination of enterprises on the basis of parochial interests, without consideration for the interests of the state, must be cut short.

An important part in this matter is played by the general state planning agencies, the Gosplan of the U.S.S.R. and the republican gosplans. It is these agencies, together with the economic councils and state committees, that should frame, from the standpoint of the national economy, correct decisions on specialisation, co-ordination and integration of industrial and construction enterprises, utilising the advantages of scientifically organised, planned socialist economy. These decisions should be based on economic calculations, an analysis of the economic efficiency of different variants of specialisation and co-ordination of production.

The most generalised characteristic of the economic efficiency of specialisation and co-ordination is the level of production costs and the recoupment period of the capital investments, if they are made.

The planned volume of homogeneous production should ensure the lowest costs. The possible saving from a reduction of costs is the difference between the cost of production prior and after specialisation. Together with this, account should be taken of the transportation outlays which differ depending on the location of the enterprises participating in co-ordinated production.

The recoupment period is the quotient obtained by dividing the sum of capital investments in new construction or outlays on specialisation during reconstruction by the annual saving on production costs.

But in each concrete case additional indices may be employed for calculating economic efficiency, namely, the expenditure of labour per unit of output, production per worker, production per ruble of fixed assets and improvement in the quality of the products.

The new forms of industrial management open up before the economic administration areas wide possibilities for integrating production on the basis of the comprehensive utilisation of raw and other materials. The production process is organised in a number of consecutive stages at one integrated plant, especially in the iron and steel, non-ferrous metals, oil-refining, chemical, timber and wood-working, light and food industries.

In planning the integration of production special attention should be paid to its following forms:

- the extraction and processing of oil and natural gas, in the first place at existing plants, and the establishment of integrated oil-refining and chemical plants;

- the production and processing of coal, shale, peat and other fuels, making wide use of the possibilities offered by integrating the coal, coke and peat industries with the chemical industry;

- the comprehensive utilisation of by-products of wood processing at pulp and paper mills, sawmills and wood-working factories;

the integration of iron and steel works with coal-concentration factories, coke and by-products, refractory and building materials plants;

the integration of non-ferrous metal plants and plants of the chemical, building materials, iron and steel and other industries with the object of utilising all the useful components of the non-ferrous metal ores;

more thorough integration of allied mills in the textile industry;

utilisation of raw materials, wastes and by-products in the chemical industry on the basis of common technological processes;

integration of enterprises of the canning, sugar, meat-packing and dairy industries with the object of utilising fully the useful components of the raw materials and employing seasonal reserves of plant facilities, production floor space, etc.

The main indices of the degree of production integration in various industries are data on the absolute volume of output of goods produced in integrated plants and also their share in the gross output of the particular goods; the quantity (in physical terms) and value of the output obtained per ton of processed raw material and also the degree of extraction of the useful components from non-ferrous metal and iron ores.

Integration of production ensures a saving of materialised and living labour. The economic efficiency is expressed in the acceleration of production processes, in the comprehensive, all-round use of raw materials, reduction of the stocks of raw materials and semi-manufactures at different stages of the production process and a cut in the outlays on the transportation of raw materials and semi-manufactures.

Measures for greater integration of production, stipulated in plans, are supported by corresponding calculations of their economic efficiency. The following indices are employed: growth of labour productivity, reduction of out-

lays for the production of the raw materials and also on transportation of semi-manufactures and supplies; an acceleration of the turnover of raw materials in integrated technological processes; a reduction of the overhead expenditures of enterprises resulting from the integration of production, an increase in the volume of output and concentration of production. Account is also taken of the possibility of obtaining entirely new products as a result of integrating production, for example rare metals, and so on.

The saving on production costs is a major index of the economic efficiency of contemplated integration of production.

In view of the need to improve specialisation, co-operation and integration of production, different interpretations have appeared of what should be understood as the "integrated" development of economic administration areas. Some economists and economic executives have an entirely wrong view: they understand integrated economic development of an area as its independence from other areas and as a result they seek to develop all the main branches of industry in each economic administration area. Such planning of economic development without consideration for the existing rational ties with other areas and profitability will merely inflict harm on the national economy and is nothing else but a desire for autarchy.

Specialisation of industrial production of an economic administration area and the development of the entire range of possible industries should be based on the rational division of labour from the standpoint of the general interests of the state and the consequent location of production over the territory of the entire country.

Some areas can narrow down their specialisation and not develop at all other industries if they are economically disadvantageous from the standpoint of the national economy. These areas can deliver their goods to other areas and obtain goods from them. This does not apply to the

manufacture of some goods regularly needed, the production of which should be organised in each area on the necessary scale. Large complexes of key industries can be built up on the basis of co-ordination within an area, chiefly in the economic geographical areas (the Urals, East Siberia). In such cases the major criterion should be whether it is rational to transport the surplus output over long distances.

"The establishment of economic administration areas has made for more rational economic ties both within and between the areas concerned," N. S. Khrushchov pointed out at the Twenty-First Congress of the C.P.S.U., "and has produced a substantial economic effect in the country. But there is also an incorrect parochial conception of comprehensive economy as one that is self-sufficing. We must vigorously combat such anti-state tendencies."*

* N. S. Khrushchov, *Control Figures for the Economic Development of the U.S.S.R. for 1959-1965*, Moscow 1960, p. 49.

Chapter IV

CONTROL AND ECONOMIC ANALYSIS OF PLAN FULFILMENT

1. General Principles and Basic Tasks of Control and Economic Analysis of Plan Fulfilment

Control of the fulfilment of directives, decisions and plans is a tried and tested Leninist method of leadership widely employed in the work of the Government, the Party and economic organisations. Lenin saw in constant control the main requisite for carrying out the directives of the Communist Party and the Soviet Government. "*To control people and control the actual fulfilment of tasks—in this, once again in this, and only in this, is now the crux of all our work, all our policies,*"* Lenin taught the personnel of the Soviet state apparatus.

Control of fulfilment of assignments as a method of communist leadership is of exceptionally great importance in national economic planning. It is an integral, component part of the work of managing and planning the national economy. Socialist planning implies the unity of the processes of drafting plans, the creation of conditions for their fulfilment, control of their actual fulfilment, of specifying and adjusting the plans in the course of their fulfilment.

* V. I. Lenin, *Collected Works*, 4th Russ. ed., Vol. 33, p. 200.

Planning agencies also control the fulfilment of government decisions and orders relating to the development of the economy. The Government adopts important decisions aimed at advancing various branches to enable them to meet the requirements of the national economy or at eliminating bottlenecks and disproportions. Such decisions, designed at times for a number of years, are taken on the basis of an analysis of the situation in the respective branches.

The proposition that planning work must not be limited to drafting and approving plans, that this is merely the initial stage, underlies Lenin's idea about control of plan fulfilment.

Lenin stated at the end of 1920 that control of plans in the process of their fulfilment was a fundamental principle of planned management and that control should aim at shortening the periods for carrying out plans, at stepping up the rates of economic development. "Taking into account the experience of science and practice, we must undeviatingly see to it in the localities that the plan be fulfilled faster than scheduled in order that the masses should learn that experience can shorten the long period which separates us from the complete restoration of industry."*

Lenin not only defined the significance of control in the planned direction of the economy but also showed *how* to analyse plan fulfilment, *how* to lay bare existing shortcomings on the basis of a concrete practical analysis of plan fulfilment, a study of the facts and figures and practical experience. "An efficient economist," Lenin wrote, "instead of nonsensical theses, will sit down to study the facts, figures and data, will analyse our own practical experience and say: the mistake was made there and there and it should be rectified this or that way. On the basis of such a study, an efficient executive will propose, or him-

* V. I. Lenin, *Collected Works*, 4th Russ. ed., Vol. 31, p. 479.

self carry out, the shifting of people, a change in accounting, a reorganisation of the apparatus, and so on.”*

The armchair-bureaucratic understanding of planning is expressed in the erroneous and harmful conception that planning work ends after the compilation of the plan and that to muster effort for its fulfilment is not the job of planning personnel but of the people directly engaged in production, that control of plan fulfilment consists in summing up the results.

Systematic control of plan fulfilment is the main way of improving the plans themselves. Control must not be separated from planning work, it precedes the work of drafting the plan, accompanies its elaboration and is the hub of planned guidance of the economy in the process of carrying out the plans.

Shortcomings in plans, above all in dovetailing separate branches of the economy, are brought out most clearly only in the course of plan fulfilment. Control helps to correct plans and to specify them in greater detail. The new assignments take into consideration the latest achievements of science and technology and the reserves brought to light, which makes them feasible and enhances the importance of plans in rallying and organising the efforts of the people.

Control of fulfilment of directives and plans is a powerful instrument in the hands of the Communist Party and the Soviet state in raising state discipline and in enhancing the responsibility shown by executives for the tasks entrusted to them and for the quality of the work.

Lenin repeatedly stressed that control of plan fulfilment must be of an active nature and he emphasised the responsibility of personnel for the progress of plan fulfilment. He told the staff of the Gosplan: “To control unflaggingly implies the fullest *responsibility* for the rational use of fuel and grain, for the maximum procurement of the one and

* V. I. Lenin, *Collected Works*, 4th Russ. ed., Vol. 32, pp. 119-20.

the other, for the maximum supply, for the saving of fuel (both in industry and on the railways, etc.), saving of food-stuffs . . . for an increase of labour productivity, etc.”*

Properly organised control of plan fulfilment reinforces the planning element at all levels, helps to root out various parochial, narrow-departmental, anti-state tendencies and ensures an approach to the fulfilment of plan assignments from the genuine interests of the state.

Non-fulfilment by some enterprises of industrial production plans in the contemplated volume, assortment and quality may leave the needs of the national economy or the population unsatisfied. If it is a question of raw materials or instruments of labour in short supply which cannot be obtained in time and in the necessary quantities from the reserve, this may cause interruptions in production or construction. Non-fulfilment of the assignments for co-ordinated deliveries of parts and sections of machines or castings has a particularly adverse effect, inasmuch as they are manufactured according to definite blueprints or technical specifications and replacement from another source may not be possible.

The Government systematically examines reports of the Councils of Ministers of the Union republics and the Gosplan of the U.S.S.R. on progress in the fulfilment of state plans and, when necessary, takes measures to ensure their fulfilment. In some cases additional assignments are set on the basis of reserves in production brought to light, or decisions are taken to specify or modify some or other assignments in the plan.

Precise and well-organised systematic control of plan fulfilment from top to bottom, beginning with the gosplans and ending with enterprises, is an important requisite for carrying out the adopted plans and the thorough grounding of new plans.

* *Ibid.*, p. 474.

Control of plan fulfilment is organised by the all-Union and republican planning agencies, state management bodies, economic councils, all-Union ministries and departments.

The purpose of control by all-Union and republican agencies is to ensure the strict fulfilment of the assignments of national economic plans, the undeviating observance of state discipline, and to cut short every manifestation of a parochial approach in solving economic problems. State planning, centralised finances and centralised accounting and statistics are major instruments in combating possible parochial tendencies, that is, a desire to develop a self-sufficing economy within separate areas.

Control of plan fulfilment is based not only on data of statistical agencies of the republics, ministries and departments, but also on a direct study of the progress of plan fulfilment at enterprises, construction sites, in collective farms, state farms, repair-and-service stations, etc. Without a concrete study of the operation of enterprises control of plan fulfilment assumes a formal, and at times bureaucratic, nature.

Intrinsically, control of plan fulfilment is creative, lively work, it does not brook a stereotyped approach. In the course of this work concrete organisational measures are devised to ensure fulfilment of decisions or plans, measures most effective in the given conditions.

Control of the fulfilment of assignments in the approved economic plans and an analysis of the level of production achieved and of the processes under way in the economy are inseparably interconnected. Economic analysis is a basic method of planning work, most widely employed in the process of control.

Control of plan fulfilment should not be understood merely as a process of mechanically comparing statistics on the actual level of production with the plan assignments in order to find out which branches do not carry out the plan. Such understanding of control is an expression of arm-

chair-bureaucratic methods of planning work, which are similar to the methods of determining the level of "business activity" used by bourgeois economists and statisticians.

Planning of the national economy is inconceivable without a concrete analysis of the level of production achieved and the state of the socialist economy. A thorough analysis of the results of plan fulfilment in the period under review provides much economic data for the scientific elaboration of a new national economic plan.

The need for a deep scientific economic analysis of the level achieved stems from the very nature of socialist planning, which represents scientific foresight of economic processes based on a study and knowledge of the objective economic laws governing the development of socialist society. Planning is based on facts and these facts are the data on the level achieved by the economy.

In the process of study of the level achieved and control of plan fulfilment, planning agencies analyse synthetic indices which characterise the rates and proportions of extended socialist reproduction; they study the structure of production which has taken shape in separate branches, republics and economic areas, examine the changes in production ties between republics and between branches of the economy. In analysing the initial level, they study not only the quantitative but also the qualitative indices of performance, indices of the work of the best economic administration areas and enterprises, shops and teams, and on this basis disclose additional production reserves. The more deeply the ways and methods applied by the best enterprises in industry and construction are analysed, the more scientifically the planned assignments are grounded.

National economic plans do not always fully reflect the demands of the objective law of planned, proportionate development. N. S. Khrushchov pointed out in the report of the Central Committee of the C.P.S.U. to the Twentieth Party Congress: "It should be said that our plans do not

yet fully reflect the requirements of the law of planned (proportionate) development of the socialist economy, with the result that there arise in the country's economy temporary partial disproportions which to a certain extent impede the development of a number of its branches. It is our task to prevent the emergence of such disproportions and fully ensure the planned development of the national economy."*

Inadequate consideration for the requirements of the law of planned, proportionate development of the national economy is making itself felt in that disproportions arise in separate sections, the normal rhythmical process of production and circulation is upset. Experience shows that many partial disproportions in the national economy arise not only as a result of contradictions in the development of the economy, but are a consequence of mistakes in planning, of poorly organised control of plan fulfilment and failure to take timely measures to ensure the carrying out of assignments.

Deviations from planned, proportionate development are revealed in the process of carrying out the national economic plan. Such instances, for example, are non-fulfilment of plan, lag in the growth of some branches, which gives rise to disproportions, or sharp overfulfilment of plan and accelerated growth of some sections owing to newly revealed reserves, which creates other disproportions.

Partial disproportions and discrepancies impede the development of the national economy and the growth of social production, lead to under-employment of productive capacity, losses of social labour and at times create difficulties in supplying the national economy with some means of production, and the population, with some consumer goods. Disproportions in production and consumption

* N. S. Khrushchov, *Report of the Central Committee of the Communist Party of the Soviet Union to the 20th Party Congress*, Moscow 1956, p. 111.

in separate economic areas lead to costly irrational shipments and big losses of social labour.

Effective control, based on a deep analysis of economic development, makes it possible to establish how far the plan correctly reflects the requirements of the law of planned development of the national economy and, if some disproportions exist, to eliminate them in time.

An analysis of plan fulfilment must not be formal, statistical in nature, presenting total results. It must be a *scientific economic* analysis which sums up the achievements and shortcomings of economic practice and facilitates a study of the processes in the national economy. The conclusions from an analysis must be based on a thorough study of the sum total of plan *targets*. They should provide rich material for understanding the operation of economic laws, for overcoming disproportions, for revealing reserves and specifying the annual assignments of long-term plans.

The principal problems of the country's economic development must be in the focus of attention of planning agencies as they control and analyse plan fulfilment.

The main task of all-Union, republican and local planning agencies in checking and analysing plan fulfilment is to *ensure the implementation of the economic and political tasks of the national economic plans and the achievement by each enterprise, economic administration area and republic of all the quantitative and qualitative targets of the plan.*

For this purpose it is necessary to study the proportions which take shape in the process of economic development, to prevent the emergence of temporary partial disproportions and discrepancies and to eliminate in good time existing disproportions, above all by redistribution of material resources and channelling capital investments so as to remove bottlenecks and to expand capacity in branches which lag behind.

The main tasks of control for preventing disproportions are to ensure rhythmical operation of enterprises, the ful-

fulfilment of assignments for co-ordinated deliveries and the setting up of normal stocks of material resources. For this it is necessary to control the strict adherence to plans, particularly the fulfilment of assignments for co-ordinated deliveries and deliveries to the all-Union fund and for export in the fixed assortment, and to expose the violators of state discipline.

Another major object of control is to disclose in good time additional reserves of productive capacity, raw and other materials and other sources of accumulation within the economy by means of an all-round study and generalisation of the experience of the most advanced industrial enterprises, state farms, collective farms, production innovators, and also a study of the indices of performance achieved in the process of socialist emulation.

Such in general outline are the principles and objectives of control of plan fulfilment at the present stage of planning.

* * *

The diversity of targets in economic plans makes it difficult to examine all the concrete questions of analysing different branches of the economy. That is why we limit ourselves to questions of analysing the targets mainly in the leading section of the national economic plan, industry.

2. Methods of Control and Analysis of Plan Fulfilment for the Qualitative and Quantitative Targets of Industrial Development

A scientific analysis of the development of the socialist economy in various branches and in territories—in republics, economic administration areas and economic geographical areas—is a primary element in the work of planning agencies.

It is known that the plans for the development of separate enterprises, Union Republics and economic adminis-

tration areas form an integral part of the general national economic plan and are mutually co-ordinated. That is why non-fulfilment of the plan by any republic, area, branch, or enterprise as regards the volume of production in the fixed assortment may upset the planned proportions in economic development and create a discrepancy in the activities of allied sections of the national economy. Of course, the material reserves at the disposal of the state and also the possibility of redistributing the money, labour and raw material resources make it possible swiftly to eliminate the disproportions arising in the economy. But a violation of the proportions stipulated in the plans inflicts certain damage. Hence the need for *current co-ordination of the development of the various branches in the course of plan fulfilment*.

The importance of analysing proportions in the process of controlling plan fulfilment for preventing disproportions from arising in the national economy was pointed out already in the decisions of the Eighteenth Congress of the C.P.S.U.: "The central object in the reorganisation of planning work is to arrange the control of plan fulfilment so as to prevent disproportions from arising in the economy, to bring to light new reserves for the carrying out of plans and, in conformity with the results of actual plan fulfilment, to introduce adjustments for separate branches and areas."*

An analysis of the development of separate branches within industry is inseparably connected with the problem of the most appropriate relation in the growth of output between separate branches of industry and between all industry and the national economy. Let us examine some of the methods of analysing this relation.

* *The C.P.S.U. in Resolutions and Decisions of Congresses, Conferences and Plenary Meetings of the Central Committee, Part III, pp. 363-64.*

Ties within and between branches and also between republics as regards the production and consumption of industrial goods are analysed with the aid of tables of interconnected targets. Interconnected targets are characterised by definite relations expressed in concrete numerical proportions which change in the process of industrial development.

To reflect the interrelation of industrial development targets, a system of special statistical tables (grouped, combined, etc.) is constructed with a view to analysing both statistical data and plan targets. The targets in the tables can be combined in the most diverse ways, but they should be logically justified and reflect the actual production ties.

In industry there are very close and easily discernible relations between production and consumption. For example, the production of steel is related to the consumption of pig iron; the manufacture of machinery and metalwares, to the production of ferrous and non-ferrous metals; all industrial output, to the production of electric power, fuel, and so on and so forth. The concrete ties of industry were examined by us in the preceding chapter.

Balance calculations are the form which has been most developed and successfully applied for analysing proportions in the national economy. In the practice of analysis tables of the structure of industry, showing the place of each branch in industrial production and the proportions within industry, are often compiled.

Such tables make it possible to trace the changes in the structure of industry in a republic, area or the Soviet Union as a whole, as compared with the preceding period.

The approximate data illustrating the structure and interrelations and proportions in the Soviet iron and steel industry are given in Table 27.

Similar analytical tables with a grouping of interconnected targets are also drawn up for other industries. For example, in one table it is possible to analyse the growth rate of the production of the following related goods: soda,

Table 27

	Year under review	Planned year
1. Share of the iron and steel industry (as percentage of all industry) in respect of:		
a) total number of industrial workers . . .	6.2	5.9
b) capital investments in the national economy	8.6	8.9
c) fixed production assets	14.5	14.0
d) coal consumption	22.0	24.0
e) electric power consumption	20.4	20.1
f) rail freight carriage	14.0	13.8
2. Rate of growth of output, percentage increase over previous year:		
a) pig iron	10.1	7.0
b) steel	9.0	7.0
c) rolled metal	10.0	7.0
of which quality metal	15.8	7.8
3. Rate of growth of output in the engineering and metal-working industry, percentage increase over previous year	20.0	15.0
4. Correlations of output:		
a) production of steel per 1,000 tons of rolled metal, tons	1,273	1,278
b) production of pig iron per 1,000 tons of steel, tons	734	722
c) production of coke per 1,000 tons of pig iron, tons	1,314	1,285
d) production of iron ore per 1,000 tons of pig iron, tons	2,157	2,184
5. Share of large economic areas in the production of rolled ferrous metal, per cent		
Centre	4.5	4.3
South	42.2	42.5
East (Volga area, the Urals, Central Asia, Siberia and the Far East)	50.6	50.8
of which the Urals	35.5	35.5

aluminium, glass and soap; sulphuric acid and mineral fertilisers; nitric acid, ammonia and nitrate of ammonia; dyes and finished fabrics; potassium dichromate, leather and footwear.

For industry as a whole tables are usually compiled characterising both the structure of industry and the growth rates of its branches, grouping them into raw material and manufacturing and singling out in manufacturing the branches which process agricultural raw materials.

An important place in a statistical analysis of the system of targets, specifically growth rates and proportions, should be assigned to the *graphic method*. For example, graphs can be made of the following interrelated indices of growth in:

- gross production of industry, including Groups A and B, and also in the engineering industry;

- gross output of industry and the generation of electricity;

- production of separate types of fuel (coal, oil, gas) and electric power, including hydropower;

- production of rolled ferrous metal and the output of the engineering and metal-working industry;

- the mining of ore and production of pig iron, steel and rolled metal;

- production of rolled ferrous metal, cement, timber and the volume of construction work;

- production of consumer goods and the volume of retail trade, etc.

The main index of the successful operation of industry is the fulfilment of plan assignments and an *increase in production as compared with the base period*.

In analysing industrial growth rates, it is exceedingly important to have a correct appraisal of the level of industrial production in the base period used for calculating the growth rates. Plans for the future period are drawn up usually at the end of the preceding, base period when there are no final data on the results of plan fulfilment and sta-

tistics on the level achieved. That is why a correct estimate of the expected plan fulfilment and the level achieved in the base period is important for calculating the rates of production growth in the plan. If the estimate of the expected level of production is low, the growth rates for the planned period, calculated on the basis of such data, will be too high and will not reflect the actual growth of production. On the other hand, an exaggerated estimate of plan fulfilment may lead to the establishment of lower rates, not reflecting all the possibilities for expanding production.

In the process of plan fulfilment the initially approved growth rates of industrial production are considerably adjusted on the basis of the final reports as seen from data in Table 28.

This table shows that the actual growth rates are always higher than the adjusted planned rates by another

Table 28

**Planned and Actual Rates of Growth in Gross
Industrial Output in 1950-60**

Year	Rate of growth approved in the plan on the basis of the expected plan fulfilment, percentage increase over previous year	Actual rate of growth on the basis of final reports, percentage increase over previous year	Fulfilment of annual plan, per cent
1950	18.5	23.0	102.0
1951	13.2	16.0	103.5
1952	11.0	12.0	101.0
1953	11.6	12.0	101.0
1954	12.0	13.0	103.0
1955	9.4	12.0	103.0
1956	10.5	10.6	102.0
1957	7.1	10.0	104.0
1958	7.6	10.0	104.0
1959	7.7	11.0	103.7
1960	8.1	10.0	101.8

2-3 per cent. Such an overfulfilment of plan is considered normal in socialist industry, and is taken into consideration in the planned assignments. Socialist plans must always be scientifically grounded and realistic, but they must not create an overstrain in the economy either. It was on the basis of this premise that the Seven-Year Plan for 1959-65 was drawn up.

N. S. Khrushchov said the following on this point in the report to the Twenty-First Congress of the C.P.S.U.: "When drawing up the Seven-Year Plan, it was borne in mind that it had to be a plan that could be carried out without overstrain. Why was this done? Because if we have a plan requiring great strain, there is always the possibility that some of its targets may not be reached and that sufficient raw material, equipment and other supplies may not be available to some branches of economy; this may entail down-time at factories, plant may be not fully employed and workers may stand idle—with all the attendant consequences. This, in the language of the economists, is disproportion.

"The Seven-Year Plan is being so drawn up as to prevent this. Overfulfilment of the plan will enable us to create additional stocks and accumulate additional funds. We shall thus have favourable conditions for the rhythmical operation of industrial establishments and better use of equipment."*

The elimination of overstrain in plans, thus, ensures rhythmical production, which eliminates down-time of equipment, improves the utilisation of labour and, consequently, raises labour productivity.

In the process of controlling plan fulfilment special attention should be paid to the timely working out of measures to preclude *a decline of industrial production in winter*. Economic councils and republican gosplans should already in the first six months of the year draw the at-

* N. S. Khrushchov, *Control Figures for the Economic Development of the U.S.S.R. for 1959-1965*, Moscow 1960, p. 52.

tention of personnel in industry and transport to the accumulation of the necessary stocks of fuel and supplies so that in winter months too each enterprise and construction site should work precisely, rhythmically, at a growing pace, and so that the railways should ensure normal freight carriage in the country.

Some branches of industry suffer great losses owing to a decline in capital construction work in winter months when a considerable part of the building equipment and materials is immobilised and building workers have much idle time at some construction projects unprepared for working in winter months. As a result of a lag in the commissioning of productive capacity, output plans are not fulfilled and the rates of extended socialist reproduction are slowed down.

One of the major reserves for increasing output in industry is the *even employment of productive capacity and the organisation of rhythmical operation*.

Irregular output of goods causes considerable losses to the national economy. On the other hand, it shows that there are unused reserves of capacity at enterprises working unevenly which could be fully employed with orders.

Irregular production even by single enterprises causes difficulties in some branches; bottlenecks and discrepancies arise, particularly in allied enterprises working in conformity with a plan of co-ordinated deliveries. Failure to fulfil the plan of these deliveries is often a source of partial disproportions.

Control of the timely fulfilment of plans for deliveries to consumers is a major task of economic councils and planning commissions in organising the supply of materials and equipment. To accomplish this task they analyse the fulfilment of delivery plans for separate items; control the correctness and timeliness of the distribution of the allocated resources among enterprises and construction sites and, what is most important, the correctness of the norms of expenditure of fuel, electric power, raw and

other materials, and also the assignments for the reduction of these norms. In controlling the fulfilment of national economic plans it is exceedingly important carefully to check the actual stock of raw and other materials at enterprises so as to reveal in time the parochial tendencies which still exist at some plants and are manifested in the accumulation of stocks of raw and other materials above the fixed standards.

Average progressive technical and economic norms are a highly important instrument for rallying the people to work for high growth rates of socialist production. The main norms in industry are set in the economic plans. On their correctness depends the quality of the plan, its progressive role in stimulating the efforts of the people and ensuring high growth rates of socialist production. If a technical and economic norm is set at a low level it, far from stimulating, retards utilisation of all the production reserves.

Therefore it is exceedingly important in controlling plan fulfilment to set average progressive norms on the basis of a thorough analysis of the norms of equipment utilisation already achieved.

Technical and economic norms take into account not only the technical prerequisites, but also all the organisational and economic possibilities of industries and enterprises. In view of this, it is very important in the process of plan fulfilment carefully to analyse all these possibilities so as to calculate correctly the technical and economic indices of performance incorporated in the new plan.

Average progressive norms are used to check the norms proposed for the plan. These are fixed on the basis of reports, with the help of average weighted indices of performance of enterprises grouped for similar conditions of work (equipment, quality of raw materials, etc.).

When the fulfilment of plans is checked and the results of operation of industry are summed up, attention is usually paid first of all to volume indices, that is, to gross output. Yet, main emphasis should be laid on an analysis of

the fulfilment of the production plan as expressed in physical terms, and also of such indices of performance as the use of equipment, raw and other materials, fuel and electric power, the introduction of advanced technology, increase in the level of mechanisation, growth of labour productivity and reduction of production costs.

Only such an analysis of plan fulfilment makes it possible deeply to appraise the real condition of an enterprise or the work of an economic administration area, to establish the results of operation, the correctness of the use of available money and material resources, and to bring out more fully additional reserves for the continued expansion of production.

In controlling the fulfilment of economic plans it is necessary specially to analyse the non-fulfilment of plans in some industries by a considerable number of enterprises, shops and sections. Control should aim at disclosing the reasons for the lag of these enterprises and shops and working out effective measures for bringing up the lagging sections to the level of those in the lead and for the fulfilment of plans by each enterprise and each shop.

An analysis of plan fulfilment can be presented approximately in the lay-out given in Table 29, which is drawn up on the basis of data of plan fulfilment for 1955 by six industries.

These data show that the coal industry had the biggest number of enterprises which did not fulfil the plan. Owing to this the coal industry fell short of the plan by about twenty million tons in 1955 and 1956.

Non-fulfilment of plans by a big number of enterprises demonstrates the existence of unutilised potentialities for further expanding production. If all the industrial enterprises of the Soviet Union had fully carried out their plans, total industrial output in 1953 would have increased by 1,500 million rubles; in 1954, by 1,300 million; in 1955, by 1,000 million; in 1956, by 1,400 million, and in 1957, by 1,000-1,200 million rubles.

Table 29

	Percentage fulfilment of the plan for gross output	Share of enterprises which did not fulfil the plan, percentage	Value of output they failed to produce (in wholesale prices of enterprises), million rubles
Iron and steel works . .	103	15	22.6
Coal collieries and strip mines	100	45	1.1
Oilfields (oil extraction)	104	18	0.03
Chemical factories . . .	104	14	18.7
Radio engineering factories	102	12	12.7
Transport machinery works	105	18	8.3

An analysis of the reasons for the systematic non-fulfilment of plans by many enterprises makes it possible to draw conclusions applicable to many industries which should be borne in mind in checking plan fulfilment.

A considerable part of the enterprises did not cope with their plans owing to insufficient co-ordination in the work of some shops or failure to meet the targets of performance set in the plan. At some enterprises the unsatisfactory work of certain shops or sections interfered with the work of other shops, as a result of which the production plan for the enterprise as a whole was not carried out. In the coal industry, for example, the plan of the main road development and of the face advance was not fulfilled systematically. This resulted in a curtailed line of reserve faces, which narrowed down the scale of operations and hampered the growth of coal production.

In a number of industries one of the reasons for failure of some enterprises to fulfil the plan was the delay in com-

missioning new capacity or the commissioning of capacity with many details left unfinished. In the case of coal pits, for example, their operation would begin though construction was not fully completed, as a result of which they failed to meet their production assignments.

The inadequate introduction of progressive technology and improved production organisation was another reason for non-fulfilment of plan. At many coal mines face cyclic schedules were introduced slowly and unsatisfactorily.

The organisation of economic administration areas and the bringing of management closer to production have made it possible to eliminate many causes which hampered plan fulfilment. The number of enterprises failing to meet their plans has been sharply reduced. Whereas in 1955-56 from 25 to 30 per cent of all industrial enterprises did not fulfil their plans, in 1957-58 their share dropped to 15 per cent. Moreover, the degree of non-fulfilment became much smaller.

An analysis of data on gross industrial output makes it possible to reveal, alongside production growth and plan fulfilment, some serious shortcomings in the operation of enterprises. While the plan for industry as a whole was exceeded by 4 per cent in 1958, an analysis of reports of economic administration areas and enterprises disclosed a number of enterprises which systematically, from year to year, did not meet the realistic production programmes set for them.

For example, in 1958 the gross industrial output plan was considerably exceeded by economic administration areas of the Russian Federation and the Ukrainian Republic. But a deep analysis of the factors ensuring over-fulfilment of plan brought to light essential shortcomings both in the methodics of planning some assignments and in the practice of fulfilling the gross output plan.

A check-up on the spot, carried out by the Gosplan of the U.S.S.R. in June 1958 at 63 plants of the Bryansk,

Vladimir, Saratov, Ulyanovsk, Tatar, Bashkir, Kiev, Odessa and Lvov economic administration areas, established that the overfulfilment of the gross output plan was achieved by many enterprises largely as a result of producing items not stipulated in the plan or secondary, "other" items, primarily goods requiring much material but little expenditure of labour for their manufacture. Another factor was the high prices of new goods set in the period of the initial organisation of their manufacture.

At some enterprises the changes in unfinished production were improperly determined owing to the use of wrong methods and coefficients in calculating these changes.

Table 30 shows the weight of various factors which ensured the overfulfilment of plan at 63 enterprises of the Russian Federation and the Ukrainian Republic:

Table 30

	Plan over- fulfilment (per cent)	Weight of each factor in the total sum of plan over- fulfilment, per- centage
Total	6.6	100
of which:		
Overfulfilment of the plan for the main categories of goods . .	2.8	43
Overfulfilment of the plan through the production of goods not in- cluded in the plan when it was approved	1.75	26.5
Overfulfilment of the plan for other goods	1.3	20
Growth of unfinished production, not taken into account in the plan	0.5	7
Difference between prices accepted in the plan and prices given in the report	0.25	3.5

At some engineering works the plan targets were considerably exceeded as a result of the increase in unfinished production. This is explained by the fact that when drawing up the gross output plan the change in unfinished production was allotted a smaller magnitude than in the report. As a result, for example, at the Lapse Plant in Kiev the actual increase in unfinished production was 8 times greater than the figure fixed in the plan and at the Lvov Motor Bus Works, 6 times greater.

Plan targets for gross output are substantially exceeded as a result of the so-called jobs of an industrial nature and services. In a number of instances the degree of plan overfulfilment for jobs and services of an industrial nature (capital repairs, aid in capital construction at the plant, the delivery of electric power and heat to other enterprises, and other services) is exceptionally high and obviously abnormal. For example, at the Lvov Motor Bus Works the programme of services to other enterprises was exceeded 21 times and for jobs of an industrial nature, 3 times. At the Food Machinery Plant in Odessa the programme for jobs of an industrial nature and services was exceeded twice over and at the Printing Machinery Plant, three times over, etc.

These facts show that planning agencies and economic councils, when analysing the fulfilment of gross output plans, should study not only the *over-all output but also the structure of this output*. These data also reveal serious shortcomings in the methods of planning and accounting of gross industrial output, which must be eliminated.

It should also be noted that some economic administration areas, while overfulfilling the plan for gross industrial output, fail to meet the assignments for the manufacture and delivery of certain important industrial goods. For example, in 1958 enterprises of the Russian Federation did not fulfil the assignments for the manufacture of rolling-mill equipment, oil equipment, gas turbines, auto-

matic forging and pressing equipment, diesel locomotives, cement and slate. A number of enterprises in the Ukrainian Republic did not fulfil the programme for the manufacture of metallurgical, power and oil equipment.

Industrial enterprises of the Byelorussian, Kazakh, Georgian, Azerbaijan, Latvian and Uzbek republics also did not meet the assignments for the manufacture of important goods, although they fulfilled the plan for gross industrial output.

In some industries there are instances when plans are fulfilled, though the assignments as regards assortment are not met. In 1958, the plan for the production of rolled stock was overfulfilled, but the target for shapes and pipes in short supply was not reached. At the same time the programme for the production of billets was considerably exceeded. The machine-tool industry overfulfilled the plan for metal-cutting machine-tools and forging and pressing equipment, but did not reach the targets for a number of the latest models in short supply. At the same time several thousand machine-tools of obsolete design were put out above plan.

The Government has laid down that goods which have been produced above plan but are in limited demand should not be considered in assessing the activities of enterprises and in calculating premiums for the managerial and engineering personnel. The plan is regarded fulfilled only if the fixed assortment, grades and quality of goods have been met.

3. Disclosure and Utilisation of Production Reserves

In the control and analysis of plan fulfilment, especially in the economic administration areas, much attention should be given to the disclosure of production reserves and their utilisation for overfulfilling plans.

Production reserves differ greatly in various branches of the economy. They include more efficient use of fixed assets and above all of productive capacity by raising the coefficient of equipment utilisation as a result of its modernisation, the employment of new machinery and more advanced technological methods, better organisation of labour and production planning; they include the saving of raw and other materials, fuel and electric power, acceleration of the turnover of circulating funds, reduction of money outlays, particularly of overhead expenses, etc.

Industry has *current reserves* and long-term reserves or *potentialities*. Current reserves, latent in existing technology, are brought out in the course of plan fulfilment. They are realised in more rational use of available equipment, resources of raw and other materials, reduction of idle time and spoilage. Potentialities are associated with a radical improvement of production by means of introducing new technology, changing the composition of equipment and structure of production, and applying fundamentally new technological methods or modernising equipment.

The utilisation of reserves for increasing output in the raw material and fuel-producing industries creates prerequisites for expanding production in the manufacturing industry.

The disclosure of reserves of productive capacity and additional raw material resources for expanding the output of consumer goods acquires particular importance in present-day conditions. The steady advance in the welfare of the Soviet people, the growth of their purchasing power, increases the demand for goods of better assortment and higher quality. Planning agencies must constantly look for reserves to expand the output of consumer goods, to bring to light all possibilities and to set additional assignments for the production of consumer goods.

A study of the practical experience of Soviet industry

shows that advanced enterprises, workers, technicians and engineers achieve exceedingly good results. An analysis of the performance of front-rank workers demonstrates the existence of great potentialities which could and should be brought into action. A case in point is the iron and steel industry where the utilisation of equipment speaks of the big possibilities for expanding the production of metal.

Thus, in 1958 the coefficient of blast-furnace operation was 0.77 for the Soviet Union as a whole (this means that one ton of pig iron was produced daily per 0.77 cu m of useful furnace volume). At the same time the Magnitogorsk Iron and Steel Works reached the best coefficient in the country—0.61, which is 25 per cent higher than the average for the country. Magnitogorsk steel workers succeeded in producing 8.9 tons of steel daily per sq m of hearth of open-hearth furnaces, or 21 per cent higher than the average for the industry as a whole (7.3 tons).

An analysis of the performance of other mills shows that the iron and steel works of the entire country are able to bring up the coefficient of blast-furnace operation to 0.74 and steel production to 8 tons per sq m of hearth. The attainment of these fully feasible indices would make it possible to produce additionally with the existing capacity over 2.5 million tons of pig iron and 3.5 million tons of steel every year. To bring into action production reserves on such a scale would allow substantial modification of the assignments of the plan for the industry and reduction in the period of their fulfilment.

To a certain extent these reserves were taken into consideration in the plan for 1959. Nevertheless, in the course of 1959 additional reserves were brought to light. Iron and steel works of the Russian Federation undertook to produce over and above the annual plan not less than 600,000 tons of steel and over 500,000 tons of rolled metal.

In bringing to light reserves in the iron and steel industry special attention should be paid to measures which

make it possible to improve the performance of metallurgical units by introducing new technology. Among these measures are wide use of averaged ores and fluxed sinter; the use of oxygen in blast furnaces and steel melting, of the duplex processes in converters and electric furnaces; the use of continuous steel pouring, continuous high-speed metal rolling, the use of durable refractories and automatic regulation of pressure and temperature of blast furnaces.

The carrying through of these measures will substantially increase the productivity of equipment. Automation of processes in blast furnaces and open-hearth furnaces raises their productivity by 7-10 per cent and brings a fuel saving of about 6 per cent. The use of an oxygen blast increases productivity of blast furnaces from 8 to 10 per cent and of open-hearth furnaces from 20 to 30 per cent. In the seven-year period it is planned to transfer 50 blast furnaces to a new regime, using gas and oxygen.

Over-all mechanisation and automation of production processes is to be introduced at the Magnitogorsk, Kuznetsk, Nizhny Tagil and Dzerzhinsky iron and steel works with the object of turning them into model enterprises for the entire industry. It is estimated that by 1965 labour productivity will have risen by 60 per cent as compared with 1958 at Magnitogorsk, 58 per cent at Kuznetsk, 56 per cent at Nizhny Tagil and 50 per cent at Dzerzhinsky works.

The socialist economic system makes it possible to solve swiftly and in a planned way the most intricate technical and organisational problems in all industries and to bring to light new huge potentialities for expanding production. The oil industry offers an example of the successful introduction of new technological processes and the tapping of potentialities. The use of the advanced method of maintaining seam pressure in the oil industry has made it possible sharply to step up the pace of oil production as seen from Table 31.

Table 31

Years	Average number of new wells put into operation annually	Average annual increase in oil output (million tons)
1936-40	1,450	1.2
1951-55	2,290	6.6
1956-57	2,072	13.6

An analysis shows that the introduction of the latest technological methods in 1951-55 sent oil production up sharply. In 1956-57 the commissioning of new wells declined as against the average for 1951-55 by 10 per cent, but the annual increase in production doubled.

New technology enabled the Soviet Union to overtake the United States in the increase of oil production. In five years (1952-57) oil production in the U.S.S.R. grew by 51 million tons, while in the United States it rose by 42 million tons. Moreover, in the United States about 338 million metres of new wells had to be drilled for this purpose and in the Soviet Union, only 27 million metres.

The method of maintaining seam pressure sharply improved the economic performance of the oil industry. In 1955-57, the capital investments per one ton of additional oil output were 58 per cent lower than in 1951-53. Between 1951 and 1957 the cost of production per ton of oil was cut more than 40 per cent.

Huge reserves are available in other industries as well. In engineering, for example, reserves for saving metal should be disclosed and utilised, which is of great importance in view of the metal shortage. For example, in 1959 planning agencies of the Leningrad Economic Council found ways of saving over 15,000 tons of ferrous and non-ferrous metals by means of more rational designs, the use

of blanks with minimal tolerances, the wider use of plastics and other substitutes. Moreover, the expenditure of labour for the manufacture of machines and tools (according to calculations) declined by 15 per cent on the average.

Of great importance is the use of alloy steels in the manufacture of machines. This not only increases the life of the machines and installations but also yields a metal saving of from 15 to 20 per cent. A big effect is also obtained by the use of light alloys, plastics and economical shapes of rolled stock in the manufacture of machines.

In disclosing reserves in industry, it is necessary to pay special attention to introducing advanced technology and checking what effect it yields. In the process of control an analysis should be made of *the technical and economic results of the new technology*: higher productivity of equipment and labour, a saving of materials, fuel and electric power and also the general saving of resources.

In controlling the fulfilment of targets for the mechanisation of labour-consuming and arduous jobs the principal attention is paid to revealing the possibilities for completing the over-all mechanisation of major production processes. The level of over-all mechanisation achieved is determined by the share of completely mechanised enterprises (productive capacity) in the total volume of the work.

If the plan includes assignments for the mechanisation of separate processes, the mechanisation level achieved can be expressed in percentage of the total volume of work for the given process. The relative saving of labour is determined by the difference in the number of workers needed to perform the volume of work in a mechanised way or manually, figured on the basis of the planned output per worker.

The Twenty-First Congress of the C.P.S.U. raised this question even more sharply: "The over-all mechanisation and automation of production processes is the chief and decisive means by which further technical progress in the national economy is to be ensured, providing the basis for further progress in the productivity of labour, the lowering of costs and the improvement of quality."*

Guided by the decisions of the Twenty-First Congress of the C.P.S.U. on the need for the most effective channeling of capital investments, leading economic councils have brought to light large production reserves for increasing output through the reconstruction and expansion of existing plants.

For example, the Vladimir Economic Council, having analysed the variants to find the most efficient use of the capital investments for the seven-year period, decided to use the money to replace and modernise equipment, to reconstruct and expand capacity and improve the utilisation of available capacity.

At the Vladimir Tractor Works possibilities have been found to increase production in 1965 by 50 per cent as compared with the volume stipulated in the original draft Seven-Year Plan. This means that the works will be able to put out additional 25,000 wheel tractor-cultivators annually.

Cotton textile mills of the Vladimir Economic Council are increasing the annual output of yarn by 12,000 tons and of cotton fabrics by 50 million metres over and above the original plan. Similar measures have been worked out by this economic council for the Kovrov Excavator Plant, the Leather Goods Factory, glass factories and other enterprises.

The initiative of the Vladimir Economic Council was approved by the Central Committee of the C.P.S.U. in a

* *Decisions of the Twenty-First (Extraordinary) Congress of the Communist Party of the Soviet Union, Moscow 1959, p. 85.*

special decision on May 21, 1959, and has been taken up by other economic councils and enterprises.

Growth of labour productivity is the focal qualitative index of performance in industry.

As much as three-fourths of the increase in industrial output in the seven-year period is to come from higher labour productivity. It should be borne in mind that each one per cent growth in labour productivity means a greater absolute growth from year to year. In present conditions a one per cent rise reduces the requirements in labour by approximately 150,000-165,000 people.

An increase of one per cent in labour productivity in various industries means the additional output of over 5,000,000 tons of coal, 600,000 tons of steel, 470,000 tons of rolled stock, 4,900 motor vehicles, 2,135 tractors, 61 million metres of cotton fabrics, nearly 4,000,000 pairs of shoes annually, etc.

When analysing the potentialities for the further rise of labour productivity in industry, planning agencies consider all possibilities for increasing output per worker by means of applying organisational and technical measures which hold good for all industries, namely:

- wide introduction of advanced machinery and technological processes, greater mechanisation and automation, modernisation of equipment;

- better use of productive capacity through an improvement of the organisation of production, the application of the experience of the advanced enterprises and front-rank workers, rationalisation of production;

- application of advanced methods of labour organisation and measures for raising the skill of the workers;

- improvement of norm-setting and wages on the basis of technically grounded norms conforming to the present level of technology and organisation of production;

- reduction in the number of auxiliary workers by improving the utilisation of existing productive capacity and mechanising auxiliary and subsidiary jobs.

In the process of analysis, other factors, specific for certain industries, are also examined. For example, in the mining industry, special account is taken of the changes in the geological conditions of production (thickness of the seam, etc.), the influence of areas with differing labour productivity, the quality of the coal or ore, state of preparatory workings, development of strip mining, etc.

In manufacturing industries, besides the development of technology, special account should be taken of changes in the production structure of enterprises, the influence of specialisation of production and co-ordinated deliveries, the reduction in auxiliary jobs, change in the expenditure of labour. In industries producing consumer goods consideration should be given to the change in the structure of production, assortment, grades and prices.

Data in Table 32 show the extent to which the main factors have influenced the general growth of labour productivity in Soviet industry in recent years (approximate calculations made by economists of the Gosplan):

Table 32

Contribution of Various Factors to General Growth of Labour Productivity in Industry		(per cent)
All factors		100
of which:		
introduction of new machinery and improvement of technological processes, mechanisation, automation, modernisation and replacement of obsolete equipment		55
specialisation and greater co-ordination of enterprises		8
reduction of production losses and losses of working time (reduction in absenteeism, idle time, deviations from normal working conditions, losses from spoilage, smaller labour fluctuation, etc.)		14
improvement of skill and reduction in the number of workers who do not fulfil the production norms		10
improvement in labour organisation and reduction in number of auxiliary workers		20
decline in labour productivity in view of changes in the structure of production (higher share of branches with a relatively smaller output per worker)		—7

In controlling plan fulfilment, it is necessary to study carefully the performance of the advanced enterprises and innovators with the highest labour productivity so as to take fuller account of their experience in setting production assignments for separate branches and revising obsolete and underestimated norms.

The creative efforts of the people contribute to the development of technology and utilisation of production reserves. In the last four years as many as 4,500,000 suggestions for production improvements have been submitted by the workers.

The masses of workers, technicians and engineers are taking an active part in bringing to light reserves for the growth of labour productivity. These problems are discussed at production conferences, general meetings and special conferences, and mass campaigns for disclosing the reserves of production are regularly organised in industry.

It is a major task of planning agencies to analyse such economic indices as *the relation between the growth of labour productivity and the rise of average wages*. The dynamics of growth of labour productivity in Soviet industry is shown in Table 33 (in per cent of preceding year):

Table 33

	1951	1952	1953	1954	1955	1956	1957	1958
Labour productivity . . .	110	107	106	107	108	107	106.5	106

A faster rate of growth in labour productivity as compared with the rise in average wages is a law of development of socialist industry. But it should be noted that in 1957 and 1958 the growth rate of average wages in industry was accelerated and drew near to the growth rate of

labour productivity, which is to a certain extent explained by measures for improving the wage system in heavy industry.

Control over the fulfilment of the plan for the wage fund is exercised not only by planning agencies, but also by the financial system and above all the State Bank of the U.S.S.R. Money for the payment of wages is issued by the Bank to enterprises on the basis of special statements showing to what extent the plan has been fulfilled. In an analysis of the over-expenditure of the wage fund, it is important to check the fulfilment of the plan not only for gross output, but especially for assortment, bearing in mind that overfulfilment of the gross output plan, while failing to meet the assortment, causes an extra expenditure on wages. The over-expenditure in the wage fund may lead to a disproportion between the wage fund, on the one hand, and trade and money circulation, on the other, and also cause budget difficulties.

Fulfilment of national economic plans is inseparably bound up with the solution of the major problem of *labour supply*.

The number of people engaged in the national economy rises every year from 3 to 8 per cent. In the current seven-year period their number is to rise approximately by 12 million. A shortage of labour, a lag in the training of skilled personnel may create a serious disproportion in the national economy. That is why the uncovering of available labour reserves in areas, the training and rational allocation of labour are one of the primary tasks of planning at the present stage.

To satisfy the rising requirements of the national economy in skilled personnel, especially in view of the introduction of the latest technology, it is necessary to control the fulfilment of plans for the training of skilled workers, and also of plans for advanced training through a system of courses and schools organised at industrial enterprises.

Production costs, in addition to labour productivity, are a major qualitative index of industrial performance. The Communist Party of the Soviet Union and the Soviet Government have always devoted much attention to this matter because the exercise of strict thrift is highly important for the further economic advance of the Soviet Union and for making accumulations within the economy.

Fulfilment of the plan for the reduction of production costs of comparable saleable output, in current prices of the respective years, was as follows:

Reduction of Production Costs
(*per cent*)

	1951	1952	1953	1954	1955	1956	1957	1958
Planned	6.5	8.9	6.0	4.7	1.8	3.9	0.4	2.3
Actual	7.0	8.1	5.1	3.9	1.9	3.4	0.4	3.0

In the present period of a new powerful economic advance of the Soviet Union, reduction of costs and strict thrift acquire exceptionally great importance.

In conformity with the contemplated volume of output and the rise in labour productivity the Seven-Year Plan calls for a reduction of industrial production costs (in comparable prices) of not less than 11.5 per cent

Each one per cent reduction in costs now amounts to more than 1,200 million rubles, but in 1965 will reach 2,100 million rubles. In the course of seven years total production outlays in industry, construction, on transport and in the state farms are to be cut by 85,000 million rubles, including a reduction of 65,000 million in industry, i.e., a sum equal to the total capital investments in heavy industry allotted for the seven years.

4. Statistics as an Instrument of Control and Analysis of Plan Fulfilment

The system of national economic accounting and centralised statistics provides planning agencies with the data necessary for the economic analysis of any branch. The concrete operation of economic laws is measured and revealed with the help of statistics which expresses various objective economic processes in figures. "Socio-economic statistics," Lenin pointed out, "is one of the most powerful instruments of social knowledge. . . ."*

In the Soviet Union statistics serves as an instrument for the scientific analysis of economic development. But this analysis and the conclusions drawn from it largely depend on how the statistical figures are processed and how deeply they reveal the interconnection between various economic phenomena. Consequently, the question how social and economic phenomena are measured and what statistics is used for this purpose acquires exceptional practical significance.

In connection with the reorganisation of planning and economic management in recent years, the Government has taken a number of decisions on improving the organisation of statistics as well.

Under the old departmental system of industrial management there were several streams of reports duplicating each other. The statistical system itself and the primary reports had many superfluous elements. Enterprises and construction sites submitted parallel reports to the ministries, planning, financial and banking organisations and also to a number of local leading bodies. Moreover, the ministries in charge of certain branches sought to have exhaustive information on a wide range of indices from all enterprises and construction sites under their jurisdiction.

In the new conditions the elaboration of all statistical data in the reports of industry, agriculture, trade, culture,

* V. I. Lenin, *Collected Works*, 4th Russ. ed., Vol. 16, p. 400.

education is centralised in state statistical agencies with the processing of all data being done by organs of the Central Statistical Board.

The reorganisation of economic management has made it possible to concentrate the efforts of statistical workers on improving and reducing the system of reports, simplifying primary accounting, on mechanising computation work so as to release employees of enterprises for productive labour. Conditions have been created for improving the work of statistical agencies in analysing statistical materials.

The Central Statistical Board of the Council of Ministers of the U.S.S.R., its central staff and local agencies represent a system which organises and conducts all statistical work in the country on the basis of uniform principles and methodology.

The system of centralised statistics, alongside state planning, is one of the primary instruments for combating possible parochial tendencies, a desire to build up a self-sufficing economy within separate areas, for promoting the observance of state discipline and strict fulfilment of national economic plans.

Statistical agencies are charged with the collection, processing and analysis of authentic, scientifically grounded statistical data reflecting the growth of the socialist economy and culture, the rise of the people's welfare, the fulfilment of state plans and the existence of reserves for the overfulfilment of plans.

The functions of statistical agencies include a systematic account of available material resources in the national economy, the drawing up of balances of material and labour resources for past periods; calculation of the social product, the national income, the income and expenditure of the population; the compilation of a balance of the national economy for the period under review.

Making economic analyses of statistical materials, the Central Statistical Board submits to the Central Commit-

tee of the Communist Party of the Soviet Union, to the Soviet Government and state planning agencies reports on urgent problems of developing the economy and culture of the Soviet Union, of the Union republics and economic administration areas.

The staff of the Central Statistical Board and its local agencies have to ensure the timely provision of leading bodies in the centre and in the periphery, planning commissions and economic councils with all the statistical data they need for planning and managing economic and cultural affairs. The Central Statistical Board also submits to research institutes, universities and colleges statistical data necessary for research work in conformity with their programmes of scientific studies.

Another important function of the statistical agencies is widely to disseminate statistical information by publishing bulletins, manuals, journals, scientific and popular statistical literature and studies of the Central Statistical Board on the economic and cultural development of the Soviet Union, the other socialist countries and also the capitalist countries. On the basis of data received, statistical agencies systematically publish reports on the fulfilment of economic plans.

Statistics is very valuable for the control of plan fulfilment because these data systematically give in a summarised way a picture of the entire economic complex of a republic or area, a picture of the work of industrial enterprises, construction sites, collective farms, state farms and repair-and-service stations. Statistical reports, presented in good time to managerial and planning agencies and properly analysed, are of great help to enterprises in fulfilling plans. Consequently they play an active part in expanding production and in elaborating measures to ensure the fulfilment and overfulfilment of plans.

It should be noted, however, that the methods of statistical study of various processes in the national economy have not been worked out adequately as yet.

The Communist Party of the Soviet Union and the Soviet Government have set before the Central Statistical Board the following tasks: *to improve the economic analysis of statistical data over long periods*, particularly to prepare in good time balances of the national economy for the period under review, which are needed for drawing up a long-term balance of the national economy, and also to analyse data on the economic and cultural development of the other socialist countries.

It is an urgent task of statistical agencies to extend work connected with the calculation of summary economic indices for the Union republics, such as the production of the social product and the national income, the growth of real wages of factory and office workers and incomes of peasants and balances of the income and expenditure of the population.

At the present stage special significance attaches to the production ties between republics and between industries and also to a study of the actual situation as regards specialisation and co-ordination of production, the introduction of new technology and better operation of enterprises. That is why an improvement of the system of indices in these fields is one of the basic tasks of statistics.

The functions of statistical agencies also include the accumulation, processing and all-round study of data relevant to the advisability of the development of certain branches in some or other areas or republics. To solve this problem properly material balances of the main industrial goods (metal, fuel, building materials, etc.) for economic administration and economic geographical areas and Union republics should be drawn up. In this connection scientists and practical workers should improve the method of analysing material balances of areas and also work out methods of drawing up summary input-output balances of means of production, fuel and power balances for areas, etc.

One of the most important tasks of statistics is to improve the analysis of the economics of production, of the factors making for a growth of labour productivity, especially in agriculture, to improve the analysis of the labour force and its utilisation. Another task is to study questions of norm setting, fulfilment of norms, the wages system, the utilisation of fixed assets and circulating funds, cost of production, the outlays of production and circulation, prices and price formation, questions of profitability of enterprises and industries.

Hence great importance is acquired by the construction of *territorial indices* connected with the calculation of summary indices of labour productivity and production costs and other preformance indices for territories, so as to enable the republican gosplans and economic councils to compare the indices of kindred enterprises located in similar conditions but in different areas;

improvement of the *statistical indices of material supply* in the new conditions, particularly the elaboration of new indices and lay-outs of deliveries between republics and between areas and also the drawing up of methodological rules for the compilation of material balances for areas;

elaboration of *indices and methods of calculating prices for territories* and also *the profitability and level of accumulations* for economic administration areas, in order to make the indices of various branches comparable;

elaboration of a system of accounting of labour expenditure in agricultural production, and also problems of accounting of production costs in the collective farms.

The working out of methods for calculating the economic efficiency of automation, over-all mechanisation and modernisation of equipment, the disclosure and ascertainment of the magnitude of reserves, particularly reserves of productive capacity, is an urgent problem. It is necessary to elaborate uniform principles for all branches for ascertaining the degree of utilisation of capacity and also

to introduce order in the methods of accounting of fixed assets for revaluation and general inventories.

Among questions requiring further study is *a more precise classification of branches of industry and of the national economy* in order to eliminate the remnants of departmental influence in listing some or other categories of production and enterprises among the various branches and to take account of the constantly arising new categories of production. A more precise classification will make for better study of the structure of branches of the economy, particularly industry, the production ties between branches and areas and also for better planning of capital investments in different branches and republics.

The collection and analysis of data characterising the economy of capitalist countries is a special task of Soviet statistical agencies. They make use of the statistical materials published in the capitalist countries, carefully checking and processing the data of bourgeois statistics. It is extremely important to ensure *a critical analysis of these data and to make them comparable with statistics of the Soviet Union and the other socialist countries*. It is very important to bear in mind the different scientific methodological approach to figures, especially units of measurement, employed in bourgeois statistics and in statistics of the Soviet Union and the other socialist countries.

For example, in the United States the iron ore production is given in terms of metal content and in the Soviet Union, in tons of the total ore extracted. The output of cotton fabrics is counted in square metres in the United States and in linear metres in the Soviet Union. Moreover, since no linen fabrics are produced in the United States, for a proper comparison Soviet data of both cotton and linen fabrics should be taken. Soviet statistics give the production of unginned cotton (including seed), while in capitalist countries the figures are for ginned cotton.

Production of electric power in the Soviet Union includes the total electricity generated, while in the United States

the consumption of electricity by the power stations themselves is excluded; production of rolled stock in the Soviet Union includes forgings, pipes and billets for re-rolling, while in the United States billets for re-rolling at other mills are excluded, and so on and so forth.

Agricultural statistics of the United States do not give the area sown in the spring period, as is done in the Soviet Union, but give the areas harvested, deducting the area on which the crops perished in the summer; in calculating the production of pork Soviet statistics include fat, while in American statistics lard is given separately; the milk yield in the Soviet Union is counted per forage-fed cow of the entire herd, while in the United States only for a milking cow, etc.

There are big difficulties in comparing national income, the size of which is overestimated by American statistics through the double count of incomes obtained in the non-productive sphere.

That is why elaboration of methods for making Soviet economic indices comparable with the indices of bourgeois countries, especially the United States, is of great importance in analysing figures which characterise the accomplishment of the main economic task of the Soviet Union.

5. Mechanisation of Calculating Work and the Use of Electronic Computers for Economic Analysis

A deep scientific analysis of data provided by a system of centralised statistics is unthinkable without the use of various calculating machines. Improvement of the organisation and methodology of accounting and statistics in large measure is ensured by the mechanisation of all the work of accounting and statistics in the country.

At present, about two million bookkeepers, accountants, record keepers, statisticians, etc., are employed in the national economy of the Soviet Union. The use of modern

calculating machines makes it possible to reduce their number appreciably.

The extensive use of calculating machines in planning and statistical agencies eases the work of the personnel, raises their productivity, reduces the period for preparing reports and analyses and raises the quality and reliability of the data.

Certain progress has been made in the Soviet Union in the mechanisation of accounting and calculating work. The total number of calculating machines has increased seven times over as compared with 1946 and has reached 150,000. The number of calculating machine installations at enterprises and organisations has risen greatly. In 1957, the Central Statistical Board set up 108 new calculating machine stations in all economic administration areas. At the beginning of 1958 there were 68 mechanised calculation centres, over 800 calculating machine stations and 2,000 calculating machine offices.

The establishment of calculating machine stations has changed the entire system of processing and analysing statistics.

Large calculating machine stations and computation centres employ more efficiently the available machines, the *latest electronic computers*, they widen the range of enterprises using computation techniques and reduce the cost of calculating and accounting work.

The present phase in the mechanisation of calculation work is marked by the development of machines capable of performing a number of functions formerly embraced only by man's intellectual activity. Electronic computers make intricate mathematical calculations in different sciences for which thousands of expert calculators were required in the past.

The need to replace man in the sphere of calculating work is dictated by the fact that the physiological possibilities of man, his ability to react fast and correctly to outside influences or to make intricate calculations swift-

ly, are limited. A modern electronic machine to a certain extent reproduces the actions of a man who uses instructions drawn up for him in advance. Analysing the information fed into it and comparing the results of this analysis with certain known criteria, the machine chooses its own mode of behaviour, prepares, as it were, instructions for itself and draws the corresponding conclusions. The systems of machines suitable for the most diverse uses are based on programming. Modern electronic computers have a "memory", which enables them to compare the past with the present, to accumulate information.

Electronic computers—БЭСМ, Strela, Ural, M-2, M-3, ЭВ-80-3 and others—have been developed and are used in the Soviet Union. Some economic calculations for purposes of planning and statistics have already been made on these machines, which offer a powerful means for analysing economic statistical data, processing statistical information and calculating variants of the national economic plan.

The use of high-speed electronic computers for economic analysis, economic information and accounting is one of the effective ways of raising the scientific level of economic planning. Their employment opens up a new page in the history of economic science. While formerly electronic computers were used mostly in mathematics, physics, chemistry, astronomy, now they can do calculations needed for solving intricate economic problems.

With the development of the economy in all the Union republics, the volume of the necessary economic information inevitably rises, which makes it so much harder to get and process the relevant mass of figures. Economic planning and statistical agencies have to collect data, to analyse them and select the most important ones. To choose the optimal variant of a plant from the many possible variants when drawing up the control figures in the Gosplan of the U.S.S.R. or drafting a plan in a Union republic, economic council or even at a factory, it is

necessary to process much data, to make a great many calculations. In most cases these calculations have to be made in a brief period, otherwise their practical value is lost.

The use of computers for various balance calculations is of great importance, especially in the case of the complicated calculations needed for the balance of the national economy. The fact that many months are required to prepare and elaborate the balance data and analyse them greatly detracts from the practical significance of the diverse information contained in the balance of the Soviet Union's national economy. Some of the most important tables of the balance, for example the tables for analysing ties between branches, if the necessary technical facilities are lacking, cannot be drawn up at all.

Compilation of so-called input-output balances of production and distribution with the help of electronic computers is a very important task in improving the balance method of planning and the methods of analysis.

The input-output balance is not a new invention. It was applied in the Soviet Union already in the 1920s in planning and statistical calculations, but it did not spread sufficiently because the level of economic work at that time and the quality of the data used for the calculations did not allow for its adequate development.

Various "theories" for the study of ties between industries based on the input-output method have appeared of late in bourgeois economic literature. Bourgeois economists devote much attention to them as a "means" for eliminating contradictions and disproportions in capitalist economy.

Special tables showing the interconnection of branches have become the fashion in capitalist countries. The interest in these tables is illustrated by the fact that, according to U.N. sources, about 50 studies on this question have

been published in the capitalist countries recently. The statistical data in these tables reveal in the form of an input-output balance (in terms of money) the distribution of the output of each producing industry among the branches consuming this output. Prof. W. Leontief of Harvard University has outlined the methodology of compiling these tables in his book *Studies in the Structure of the American Economy*.

In conditions of socialist economy the use of electronic computers for calculations of ties between branches and between areas yields an incomparably greater effect than in the capitalist countries. In contrast to the capitalist countries, computers are used in the Soviet Union not only for a statistical account of these ties but also for planning the national economy.

Modern electronic computers increase the ability of planning agencies to choose variants of ties between branches, between republics and between areas and, on this basis, to establish the main directions, rates and proportions in developing the national economy.

Electronic computers can also be used in elaborating different variants of material balances and distribution plans, in calculating variants of balances for any given changes in norms of consumption and in other initial data of balance ties between production and consumption. Huge possibilities are opened up for calculating the economic efficiency of capital investments in various branches of the national economy and their most economical structure.

Electronic computers can help analyse data on the influence of, and changes in, separate factors in the case of such complex synthetic indices as, for example, the interconnection between the level of production costs and the reduction of norms of expenditure of raw and other materials, between the growth of labour productivity and the rise of wages, etc.

Electronic machines can perform various bookkeeping functions for accounting and planning at factories and construction sites, for example the calculation of wages, account of saleable output, etc. Laborious calculations needed for analysis, accounting and compilation of plans are done on electronic computers.

The experience of the Rostov Agricultural Machinery Works (Rostselmash) can be cited as an example of the successful use of the compact EV-80-3 computer in planning and accounting on a factory scale. The works had used calculating machines for bookkeeping and planning purposes. But their low productivity and inexactness of calculation, coupled with the greater volume of work, made it necessary to use the high-speed ЭВ-80-3.

The following work is done at the Rostselmash with the aid of the ЭВ-80-3:

- calculation of wages according to work records;
- account of the cost of the materials received and issued by the works' warehouses;
- calculation of the cost of production of semi-finished goods in the works' shops (saleable output of shops);
- establishment of the cost of machines and spare parts (saleable output of works);
- estimate of the cost of parts in unfinished output, according to inventory data;
- the working out of calculating prices of parts and sets of machines for purposes of economic analysis and for drafting plans.

The electronic machine makes calculations which were technically impossible in the past because of the large amount of work involved: information on the expenditure of labour in the production of different items, the degree of mechanisation of production processes, data on the utilisation of equipment, the planned payroll by shops, trades and categories, the requirements in materials for drawing up supply lists and supply plans.

Electronic computers yield a tremendous saving as compared with ordinary calculating machines. In one second the M-2 computer does calculations equivalent to a day's work of an electric calculating machine. The cost of calculation is 40 kopeks per one million operations, whereas on an electric calculating machine the cost of one million operations is 2,600 rubles.

Mechanisation of calculating work on electronic computers enables the national economy to centralise statistics still more. It is advantageous to send information in unprocessed form to the centres of economic areas directly from enterprises, to process it on electronic computers and to transmit it back and accumulate it in the centre.

The solution of key problems of economic development achieved with the help of electronic machines will make it possible substantially to raise the scientific level of economic analysis and control of plan fulfilment.

The available computers can make economic calculations for planning and statistics, but the new demands presented to national economic planning, above all to central planning agencies, bring forward the task of improving the existing designs and developing special types of computers in the current seven-year period.

The main direction in the development of electronic computers is the increase of speeds and improvement of models necessitated by the extension of the use of computation techniques in mathematics, technological and economic calculations and also the automation of financial and money operations.

A major problem to be solved in the next few years is the training of economists, statisticians and planning experts capable of applying the latest computers, of economists of wide range with a theoretical training in mathematics who are experts in drafting plans and analysing their fulfilment.

The use of electronic computers necessitates the study of scientific methodological questions involved in prepar-

ing programmes for planning and statistical work to be done on these machines. The novelty and complexity of such programmes will require the enlistment of the services of highly competent economists, planning experts, research workers, and mathematicians of scientific institutes, academies of sciences, economic councils, and also industrial specialists who have experience in using electronic computers.

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